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BONANZA CEMENT TILE ROOFING



DATA SHEETS
SECOND EDITION

AMERICAN CEMENT TILE
MANUFACTURING COMPANY

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SECOND EDITION
MAY 1917

AMERICAN CEMENT TILE
MANUFACTURING COMPANY

General Offices:
OLIVER BLDG., PITTSBURGH, PA.

BRANCH OFFICES: NEW YORK PHILADELPHIA CLEVELAND
WORKS: WAMPUM, PA. LINCOLN N. J. FAIRFIELD, ALA.

INTRODUCTION

The various details and suggestions in steel design are submitted for use with the three types of "BONANZA" Roofing Tile we furnish, that is,

Interlocking Tile.

Flat Tile.

Long Span T Tile (single or insulated).

These are manufactured, installed and guaranteed by us.

We offer large, light, strong units, laid directly over open steel, permitting simplicity throughout and economy in steel design.

The Interlocking Tile is designed for pitched construction, forming in itself a finished watertight roof.

The Flat Tile is designed for flat or pitched construction made watertight by the application of some standard composition covering.

The Long Span T Tile is designed for flat or pitched construction, and in double thickness forming air chambers, provides additional insulation. (Also requires the application of composition covering.)

BONANZA INTERLOCKING TILE

DIMENSIONS AND WEIGHTS

Thickness of tile.....	approximately 1 inch
Size of standard tile.....	26 x 52 inches
Weight per square foot.....	12½ pounds
Surface exposed to weather.....	24 x 48 inches
Number of tile per square of roof.....	(100 sq. ft.) 12½
Weight per square foot of finished roofing.....	14.5 pounds

CONSTRUCTION

Tile is made of best Portland Cement, clean sharp sand and properly reinforced. The reinforcing metal is thoroughly imbedded and protected. The exposed surface of the tile is Indian red in color, and the underside has a smooth white finish.

LOAD TESTS.

BONANZA tile is guaranteed to carry a uniformly distributed load of 200 pounds per square foot over a four foot span. Actual tests show that tile at the age of three months carry as high as 300 pounds per square foot uniformly distributed load over a four-foot span before fracture.

ROOF DESIGN FOR INTERLOCKING TILE

The least desirable slope of roof is one-fifth pitch, by which is meant that the rise of roof is equal to one-fifth of the total span, (4-13/16 in. per foot).

For spacing of purlins for 35 ft. to 75 ft. spans, refer to Page No. 5.

In laying out spacing for spans not given, always start at the eaves. See Plates Nos. 6 to 13, which show various eave conditions. Note that the bearing surface for the eave tile must be raised 1 in. in order to give the eave tile the same slope as the rest of the roof. After determining the eave space, use standard spacing of 3 ft. 10 in. to 4 ft. 0½ in., placing short course, if any, at the ridge. For Ridge course, see Plate No. 14 and table, page 6. In cases where Monitors are used, provide construction as shown on Plates Nos. 15 to 19.

The short courses at the ridge can be varied from 1 ft. 4 in. to 3 ft. 8 in., see Plate No. 14.

To eliminate courses shorter than 1 ft. 4 in., use special 60-in. tile for eave course and adjacent course, if necessary, see Plate No. 9.

The roof purlins should in all cases be channels or I beams. The size recommended is given on Plate No. 5. For safe load on Channels and Beams see table, page No. 7.

All purlins must be straight and held in alignment by the use of sag rods. One line of sag rods is to be used for bays up to 16 foot span. For larger spans two lines are used. See Plate No. 5. Where purlins are framed into trusses, they should be placed so that the top flanges will be $1\frac{1}{4}$ in. above the truss.

Where end finishing tile is used at the gables, the wall is slotted in line with the purlins to provide proper support for the tile, see Plate No. 27.

Where the gable walls extend above the roof line, a 4 x 4 chase should be provided for application of flashing, see Plate No. 28. Where the construction of the gable walls does not allow the forming of a chase, cap flashing must be provided, see Plate No. 29.

To provide light, we recommend the use of glass insert tile. These interlock with standard length tile and can be placed where desired. See Plate No. 2. For ventilating skylight tile, see Plate No. 33. For various trimming details, see Plates Nos. 30 to 38.

BONANZA FLAT TILE

DIMENSIONS AND WEIGHTS

Thickness of tile.....	1½ inches
Size of standard tile.....	24 x 60 inches
Surface exposed	24 x 60 inches
Weight per square foot.....	17 pounds
Weight per square of roof.....	1,700 pounds

Special tile is furnished for spaces over or under 60 inches and for flashing.

CONSTRUCTION

Tile is made of best Portland Cement, clean, sharp sand and properly reinforced.

LOAD TESTS

BONANZA flat tile is guaranteed to carry a uniformly distributed load of 150 pounds per square foot over a span of five feet.

ROOF DESIGN

Flat tile is laid on I beam purlins spaced 5 feet center to center, see Plates Nos. 39, 40 and 41. Special tile is furnished for odd spaces. The size of purlins recommended is given on Plate No. 39. Channels of equivalent strength having a flange width of not less than 2½ inches may be used. After tile is laid, the joints are thoroughly pointed.

BONANZA LONG SPAN T TILE FOR INSULATED ROOFS

DIMENSIONS AND WEIGHTS

Depth of tile.....	3½ inches
Size of standard tile.....	12 x 90 inches
Weight per square foot.....	25 pounds

CONSTRUCTION

Tile is made of best Portland Cement, clean, sharp sand and properly reinforced.

LOAD TESTS

BONANZA Long Span T tile is guaranteed to carry a uniformly distributed load of 150 pounds per square foot over a span of seven and one-half feet.

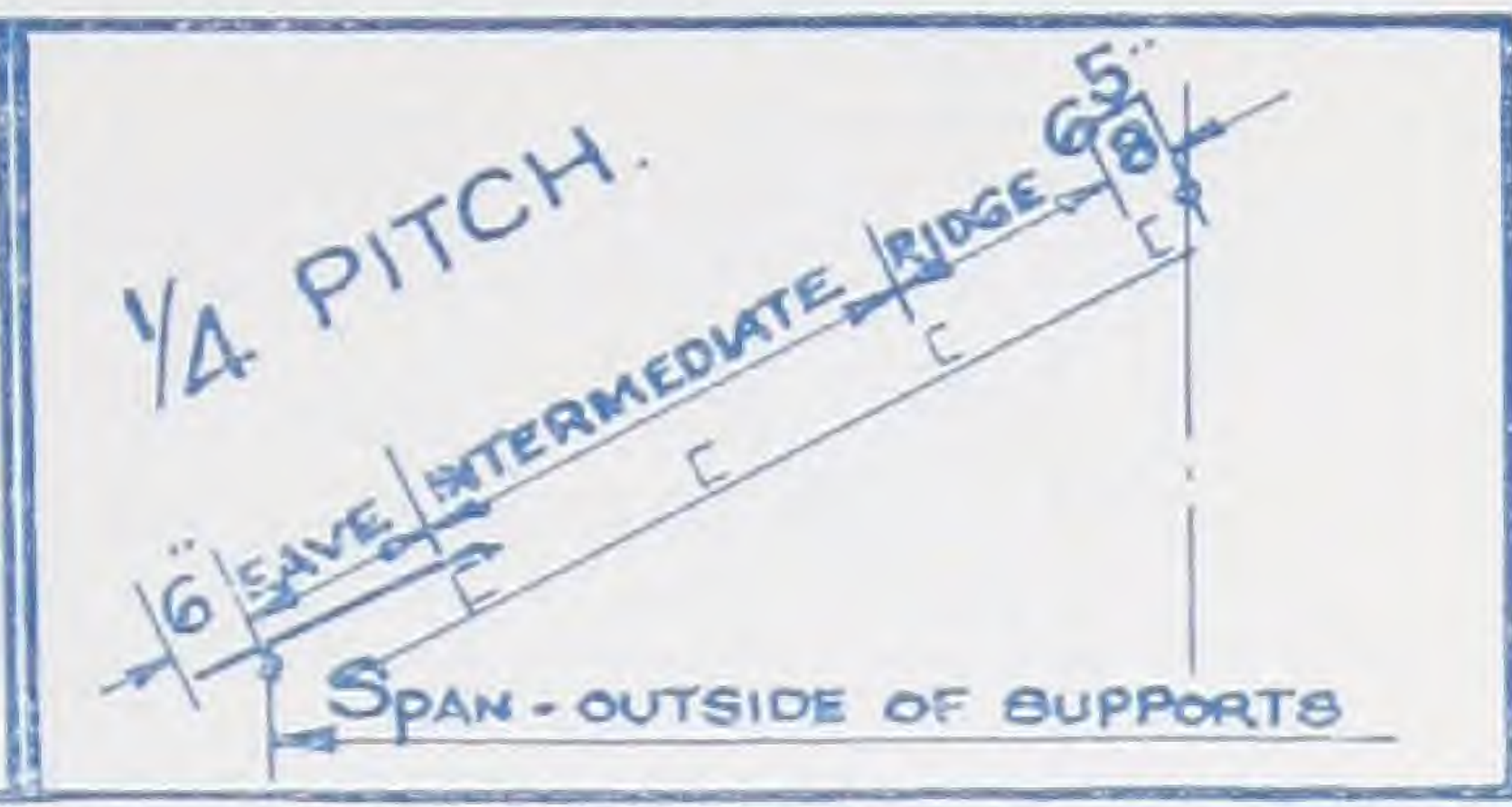
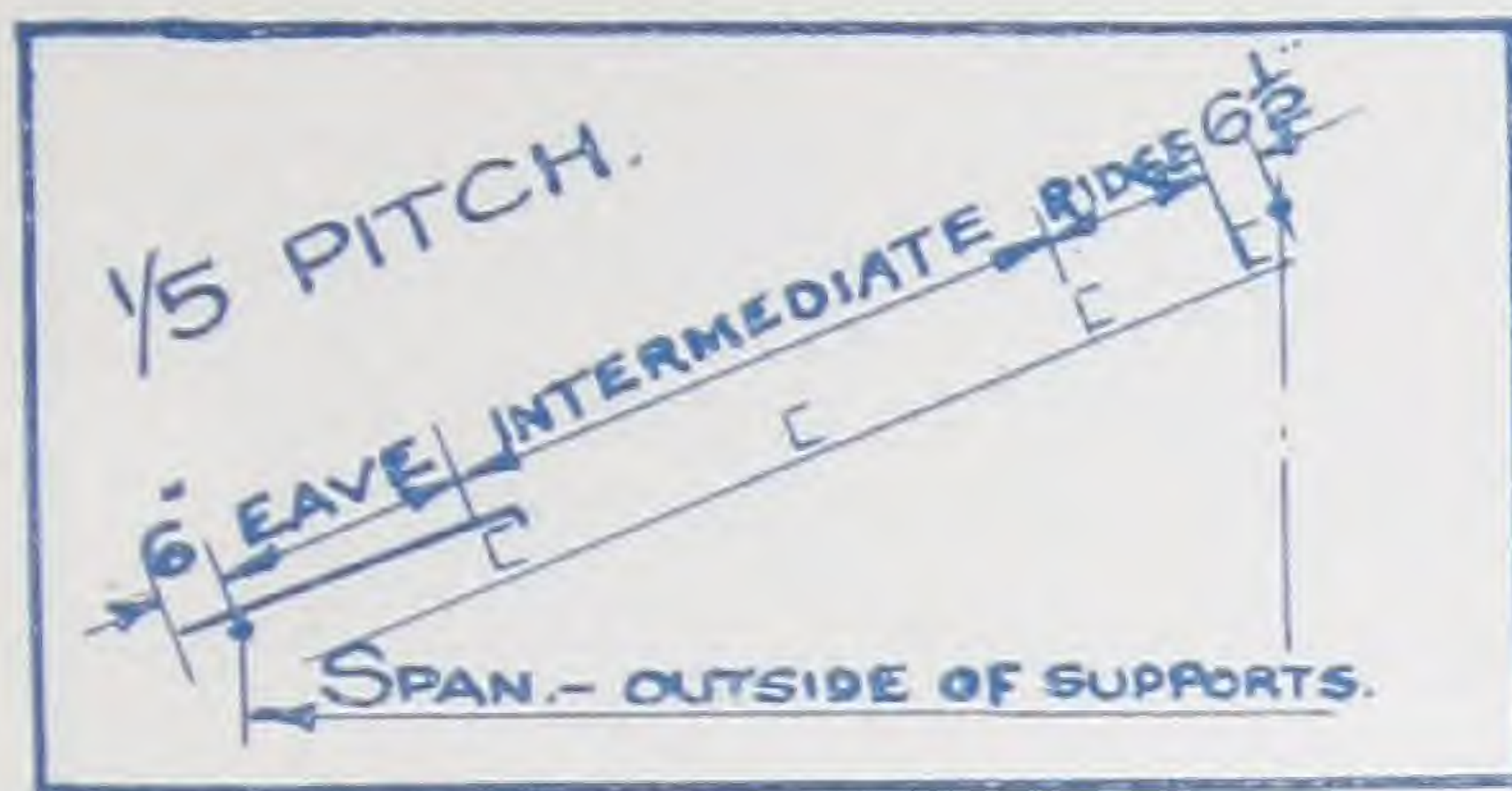
ROOF DESIGN

Long Span T tile is laid on I beam purlins spaced 7½ feet center to center. See Plates Nos. 43 and 44. Special tile is furnished for odd spaces.

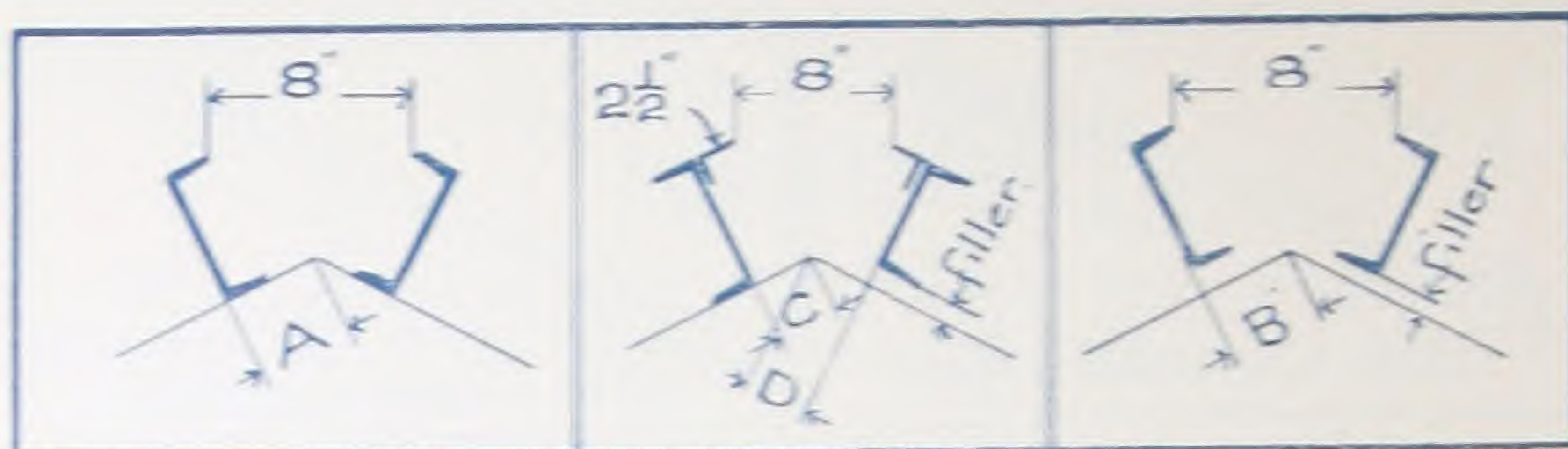
Top T sections can be used alone, if insulated roof is not desired. Weight, 16 pounds per square foot.

After tile is laid, joints are thoroughly pointed.

Standard specifications furnished on request.



Span	Eave	Intermediate	Ridge	Eave	Intermediate	Ridge
35	3'-7"	3 @ 4'-0 $\frac{1}{4}$ "	2'-8"	3'-7"	3 @ 4'-0 $\frac{1}{4}$ "	3'-4 $\frac{3}{8}$ "
36	3'-7"	3 @ 3'-11 $\frac{3}{4}$ "	3'-4"	3'-7"	3 @ 4'-0"	3'-11 $\frac{7}{8}$ "
37	3'-7"	3 @ 3'-11 $\frac{7}{16}$ "	3'-11 $\frac{7}{16}$ "	4'-3"	3 @ 3'-11 $\frac{3}{4}$ "	3'-11 $\frac{3}{8}$ "
38	3'-11"	3 @ 4'-0"	4'-0"	4'-3"	1 @ 4'-8 $\frac{1}{4}$ "	3 @ 3'-11"
39	4'-3"	1 @ 4'-4 $\frac{1}{8}$ "	3 @ 3'-11 $\frac{1}{2}$ "	3'-7"	4 @ 4'-0"	1'-8"
40	4'-3"	1 @ 4'-8 $\frac{3}{8}$ "	3 @ 4'-0 $\frac{1}{4}$ "	3'-7"	4 @ 3'-11 $\frac{3}{4}$ "	2'-3 $\frac{3}{4}$ "
41	3'-7"	4 @ 4'-0"	1'-11 $\frac{1}{2}$ "	3'-7"	4 @ 4'-0 $\frac{1}{4}$ "	2'-8 $\frac{1}{2}$ "
42	3'-7"	4 @ 3'-11 $\frac{1}{2}$ "	2'-8"	3'-7"	4 @ 4'-0"	3'-4 $\frac{1}{8}$ "
43	3'-7"	4 @ 4'-0"	3'-0 $\frac{1}{2}$ "	3'-7"	4 @ 3'-11 $\frac{3}{4}$ "	3'-11 $\frac{7}{8}$ "
44	3'-7"	4 @ 3'-11"	3'-11"	4'-3"	4 @ 3'-11 $\frac{1}{2}$ "	3'-11 $\frac{5}{8}$ "
45	3'-7"	4 @ 4'-0 $\frac{1}{4}$ "	4'-0 $\frac{1}{4}$ "	4'-3"	1 @ 4'-4 $\frac{1}{4}$ "	4 @ 4'-0"
46	4'-3"	4 @ 4'-0"	4'-0"	3'-7"	5 @ 3'-11 $\frac{7}{8}$ "	1'-7 $\frac{5}{8}$ "
47	4'-3"	1 @ 4'-4 $\frac{3}{8}$ "	4 @ 4'-0 $\frac{1}{2}$ "	3'-7"	5 @ 3'-11 $\frac{1}{2}$ "	2'-4 $\frac{1}{4}$ "
48	3'-7"	5 @ 4'-0 $\frac{1}{8}$ "	1'-8 $\frac{1}{8}$ "	3'-7"	5 @ 4'-0 $\frac{1}{16}$ "	2'-8 $\frac{1}{16}$ "
49	3'-7"	5 @ 4'-0"	2'-3 $\frac{1}{4}$ "	3'-7"	5 @ 3'-11 $\frac{7}{8}$ "	3'-3 $\frac{3}{4}$ "
50	3'-7"	5 @ 4'-0 $\frac{1}{4}$ "	2'-8 $\frac{1}{2}$ "	3'-7"	5 @ 3'-11 $\frac{5}{8}$ "	3'-11 $\frac{3}{4}$ "
51	3'-7"	5 @ 4'-0"	3'-4 $\frac{1}{4}$ "	3'-11"	5 @ 4'-0 $\frac{1}{8}$ "	4'-0 $\frac{1}{4}$ "
52	3'-7"	5 @ 3'-11 $\frac{3}{4}$ "	3'-11 $\frac{7}{8}$ "	4'-3"	1 @ 4'-4"	5 @ 3'-11 $\frac{7}{8}$ "
53	3'-11"	5 @ 4'-0 $\frac{3}{16}$ "	4'-0 $\frac{3}{16}$ "	3'-7"	6 @ 3'-11 $\frac{3}{4}$ "	1'-7 $\frac{1}{2}$ "
54	4'-3"	1 @ 4'-3 $\frac{5}{8}$ "	5 @ 4'-0"	3'-7"	6 @ 4'-0 $\frac{1}{16}$ "	2'-0 $\frac{1}{4}$ "
55	3'-7"	6 @ 3'-11 $\frac{11}{16}$ "	1'-8"	3'-7"	6 @ 4'-0"	2'-7 $\frac{3}{8}$ "
56	3'-7"	6 @ 4'-0"	2'-0 $\frac{1}{2}$ "	3'-7"	6 @ 3'-11 $\frac{3}{4}$ "	3'-3 $\frac{5}{8}$ "
57	3'-7"	6 @ 3'-11 $\frac{7}{8}$ "	2'-7 $\frac{3}{4}$ "	3'-7"	6 @ 4'-0 $\frac{1}{8}$ "	3'-8"
58	3'-7"	6 @ 4'-0 $\frac{1}{4}$ "	3'-0"	3'-11"	6 @ 3'-11 $\frac{15}{16}$ "	3'-11 $\frac{15}{16}$ "
59	3'-7"	6 @ 4'-0"	3'-8"	4'-3"	6 @ 4'-0 $\frac{5}{16}$ "	4'-0 $\frac{5}{16}$ "
60	3'-11"	6 @ 3'-11 $\frac{3}{4}$ "	3'-11 $\frac{7}{8}$ "	3'-7"	7 @ 3'-11 $\frac{11}{16}$ "	1'-7 $\frac{11}{16}$ "
61	4'-3"	6 @ 4'-0 $\frac{1}{8}$ "	4'-0 $\frac{1}{8}$ "	3'-7"	7 @ 4'-0"	1'-11 $\frac{5}{8}$ "
62	4'-3"	1 @ 4'-8"	6 @ 3'-11 $\frac{7}{8}$ "	3'-7"	7 @ 3'-11 $\frac{3}{4}$ "	2'-8"
63	3'-7"	7 @ 3'-11 $\frac{3}{4}$ "	1'-11 $\frac{1}{2}$ "	3'-7"	7 @ 4'-0 $\frac{1}{8}$ "	3'-0 $\frac{1}{8}$ "
64	3'-7"	7 @ 4'-0"	2'-4 $\frac{1}{4}$ "	3'-7"	7 @ 4'-0"	3'-7 $\frac{3}{4}$ "
65	3'-7"	7 @ 3'-11 $\frac{7}{8}$ "	2'-11 $\frac{5}{8}$ "	3'-7"	7 @ 4'-0 $\frac{5}{16}$ "	4'-0 $\frac{3}{16}$ "
66	3'-7"	7 @ 4'-0 $\frac{3}{16}$ "	3'-4"	4'-3"	7 @ 4'-0 $\frac{1}{8}$ "	4'-0 $\frac{1}{4}$ "
67	3'-7"	7 @ 4'-0"	3'-11 $\frac{5}{8}$ "	4'-3"	1 @ 4'-7 $\frac{7}{8}$ "	7 @ 4'-0"
68	4'-3"	7 @ 3'-11 $\frac{3}{4}$ "	3'-11 $\frac{7}{8}$ "	3'-7"	8 @ 3'-11 $\frac{7}{8}$ "	1'-11 $\frac{5}{8}$ "
69	4'-3"	1 @ 4'-4 $\frac{1}{8}$ "	7 @ 4'-0 $\frac{1}{16}$ "	3'-7"	8 @ 4'-0 $\frac{1}{8}$ "	2'-4 $\frac{1}{4}$ "
70	3'-7"	8 @ 3'-11 $\frac{7}{8}$ "	1'-8"	3'-7"	8 @ 4'-0"	3'-0"
71	3'-7"	8 @ 4'-0 $\frac{3}{16}$ "	2'-0"	3'-7"	8 @ 3'-11 $\frac{7}{8}$ "	3'-7 $\frac{5}{8}$ "
72	3'-7"	8 @ 4'-0"	2'-8"	3'-7"	8 @ 4'-0 $\frac{3}{16}$ "	3'-11 $\frac{7}{8}$ "
73	3'-7"	8 @ 3'-11 $\frac{7}{8}$ "	3'-3 $\frac{1}{2}$ "	4'-3"	8 @ 4'-0"	4'-0 $\frac{1}{8}$ "
74	3'-7"	8 @ 4'-0 $\frac{1}{8}$ "	3'-8"	4'-3"	1 @ 4'-7 $\frac{7}{8}$ "	8 @ 3'-11 $\frac{7}{8}$ "
75	3'-11"	8 @ 4'-0"	3'-11 $\frac{3}{8}$ "	3'-7"	9 @ 4'-0 $\frac{1}{8}$ "	1'-8 $\frac{3}{8}$ "



FIGURES BELOW HEAVY LINES ARE FOR C & D.

	C	A	Flange Width	Distance B with Fillers		
				1/4"	1/2"	3/4"
1/6 Pitch 4" in 12"	5	4 1/4	1.75	4 1/8	4 1/8	4
	6	4 1/8	1.92	4 1/8	3 11/16	3 7/8
	7	3 11/16	2.09	3 7/8	3 3/4	3 11/16
	8	3 3/4	2.26	3 11/16	3 5/8	3 1/2
	9	3 5/8	2.43	3 8/16	3 7/16	3 3/8
	10	3 7/16	2.60	3 5/8	3 1/4	3 3/16
1/6 Pitch 4 1/16" in 12"	5	4 1/16	1.75	3 11/16	3 7/8	3 3/4
	6	3 11/16	1.92	3 3/4	3 5/8	3 1/2
	7	3 3/8	2.09	3 1/2	3 3/8	3 5/16
	8	3 5/8	2.26	3 1/4	3 1/8	3 1/16
	9	3 1/8	2.43	3 1/16	2 11/16	2 11/16
	10	2 5/8	2.60	2 11/16	2 11/16	2 1/2
1/4.8 Pitch 6" in 12"	5	4	1.75	3 7/8	3 3/4	3 11/16
	6	3 3/4	1.92	3 5/8	3 3/8	3 7/16
	7	3 1/2	2.09	3 3/8	3 1/4	3 1/8
	8	3 1/4	2.26	3 1/8	3	2 7/8
	9	3	2.43	2 7/8	2 3/4	2 11/16
	10	2 5/8	2.60	2 7/8	2 7/16	2 1/8
1/4 Pitch 6 1/8" in 12"	5	3 11/16	1.75	3 3/16	3 1/16	3 1/16
	6	3 3/8	1.92	3 1/4	3 1/8	3
	7	3	2.09	2 7/8	2 3/4	2 5/8
	8	2 11/16	2.26	2 8/16	2 7/16	2 7/16
	9	2 7/16	2.43	2 7/16	2 1/16	2
	10	1 11/16	2.60	1 11/16	1 11/16	1 5/8
1/3 Pitch 8" in 12"	5	3 1/16	1.75	3 1/16	2 7/8	2 11/16
	6	2 3/4	1.92	2 1/16	2 3/8	2 1/16
	7	2 1/8	2.09	2 7/16	2 1/4	2 3/8
	8	1 11/16	2.26	1 3/4	1 5/8	1 7/16
	9	1 3/4	2.43	1 5/8	1 1/16	1 1/4
	10	5/8	2.60	7/16	3/4	1/16

SEE PLATE No. 14 FOR USE OF FILLERS

SAFE LOAD IN TONS UNIFORMLY DISTRIBUTED

WEIGHT OF BEAMS AND CHANNELS INCLUDED
MAXIMUM FIBRE STRESS 16000 LBS. PER SQ. INCH

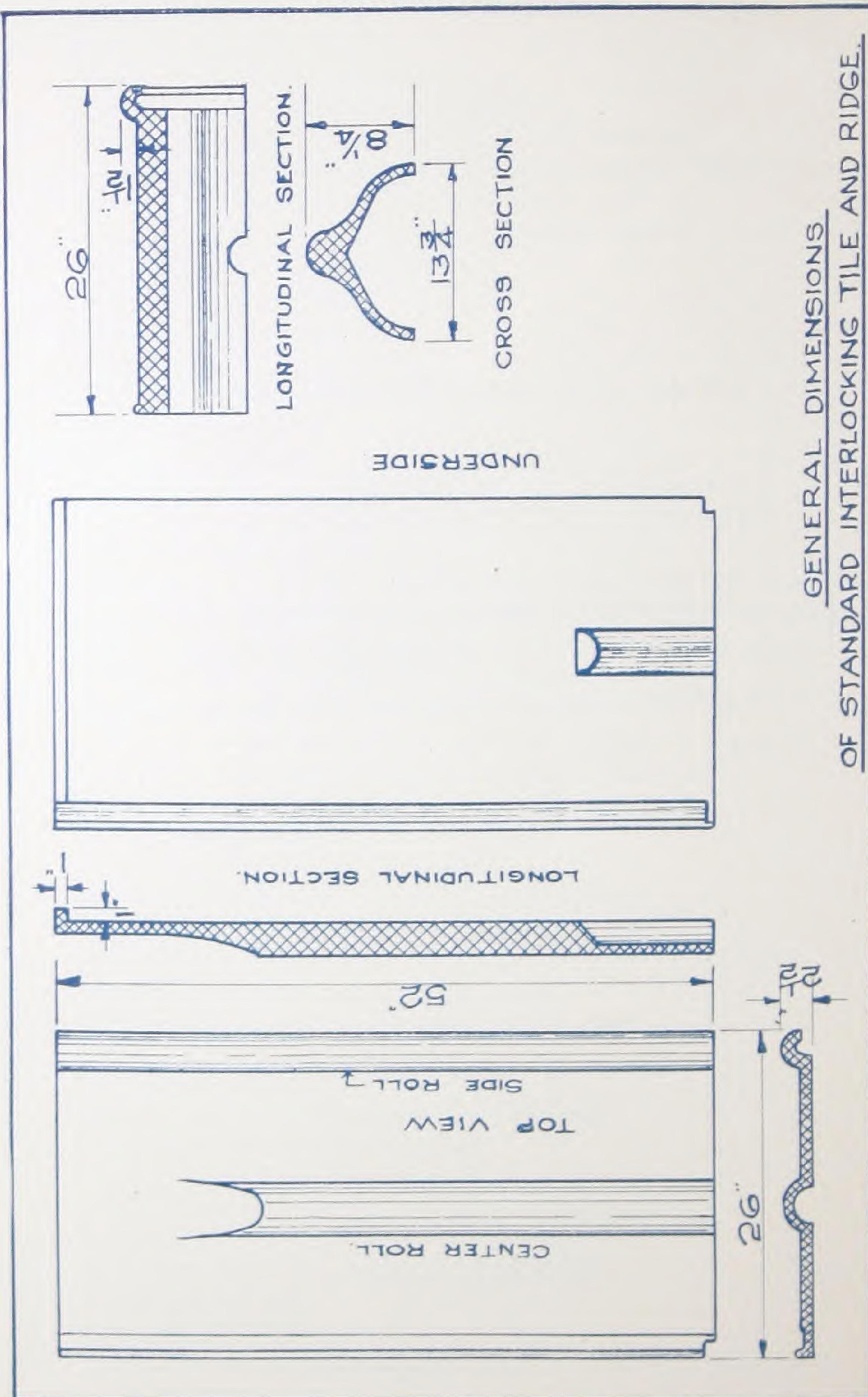
SIZE	WEIGHT	I-BEAMS											
		SPAN IN FEET											
		14	15	16	17	18	19	20	21	22	23	24	25
5"	9.75	1.84	1.72	1.61	1.52	1.43	1.36	1.29	1.32				
6"	12.25	2.77	2.58	2.42	2.28	2.15	2.04	1.94	1.85				
7"	15.00	3.94	3.68	3.45	3.25	3.07	2.91	2.76	2.63				
8"	18.00	5.42	5.06	4.74	4.46	4.21	3.99	3.79	3.61	3.45	3.30	3.16	3.04
9"	21.00	7.19	6.71	6.29	5.92	5.59	5.30	5.03	4.79	4.58	4.38	4.19	4.03
10"	25.00	9.30	8.68	8.14	7.66	7.24	6.86	6.51	6.20	5.92	5.66	5.43	5.21
12"	31.50	13.70	12.80	12.00	11.3	10.70	10.10	9.59	9.14	8.72	8.34	7.99	7.67
CHANNELS													
5"	6.50	1.13	1.05	.99	.93	.88	.83	.79					
6"	8.00	1.65	1.54	1.44	1.36	1.28	1.22	1.16					
7"	9.75	2.39	2.23	2.09	1.96	1.86	1.76	1.67	1.59	1.52	1.45	1.39	1.34
8"	11.25	3.08	2.87	2.69	2.53	2.39	2.27	2.15	2.05	1.96	1.87	1.79	1.72
9"	13.25	4.01	3.74	3.51	3.30	3.12	2.95	2.81	2.67	2.55	2.44	2.34	2.24
10"	15.00	5.10	4.76	4.46	4.20	3.96	3.76	3.57	3.40	3.24	3.10	2.97	2.85
12"	20.50	8.14	7.59	7.12	6.70	6.33	5.99	5.70	5.42	5.18	4.95	4.5	4.56

INDEX.

- 1 General dimensions of standard interlocking tile and ridge
- 2 Glass insert tile
- 3 Method of laying tile
- 4 Detail of interlocking joint
- 5 Roof framing for interlocking tile
- 6 Section showing eave spacing (wall bearing).
- 7 Section showing eave spacing (eave purlin exposed).
- 8 Section showing eave spacing (iron cornice).
- 9 Section showing eave spacing (using special length tile)
- 10 Suggestion for hanging gutters
- 11 Parapet wall gutter
- 12 Parapet wall gutter
- 13 Double gutter
- 14 Section showing intermediate and ridge spacing
- 15 Eave construction
- 16 Eave construction
- 17 Eave construction for monitor (with tile cornice)
- 18 Eave construction for monitor (with tile cornice)
- 19 Standard flashing tile
- 20 Connection of leanto roof to side wall (cement flashing)
- 21 Connection of leanto roof to side wall (metal flashing)
- 22 Sawtooth gutter construction
- 23 Sawtooth ridge (windows on slope)
- 24 Sawtooth ridge (windows on slope)
- 25 Sawtooth ridge (windows vertical)
- 26 Sawtooth ridge construction omitting ridge roll
- 27 Detail of gable end showing end finishing tile
- 28 Parapet gable wall
- 29 Metal flashing at gable walls
- 30 Standard collar tile for vents and stacks
- 31 Typical stack framing and flashing
- 32 Flashing at chimneys
- 33 Standard ventilating skylight tile
- 34 Connection of metal skylight to tile roof
- 35 Valley gutter construction
- 36 Hip ridge construction
- 37 Metal ventilator framing and flashing
- 38 Ventilated ridge construction
- 39 Purlin spacing for flat tile
- 40 Details of flat tile for monitor construction
- 41 Details of flat tile
- 42 Umbrella shed for railway platforms
- 43 Long span T tile
- 44 Long span T tile
- 45 Combination of interlocking and flat tile for insulation

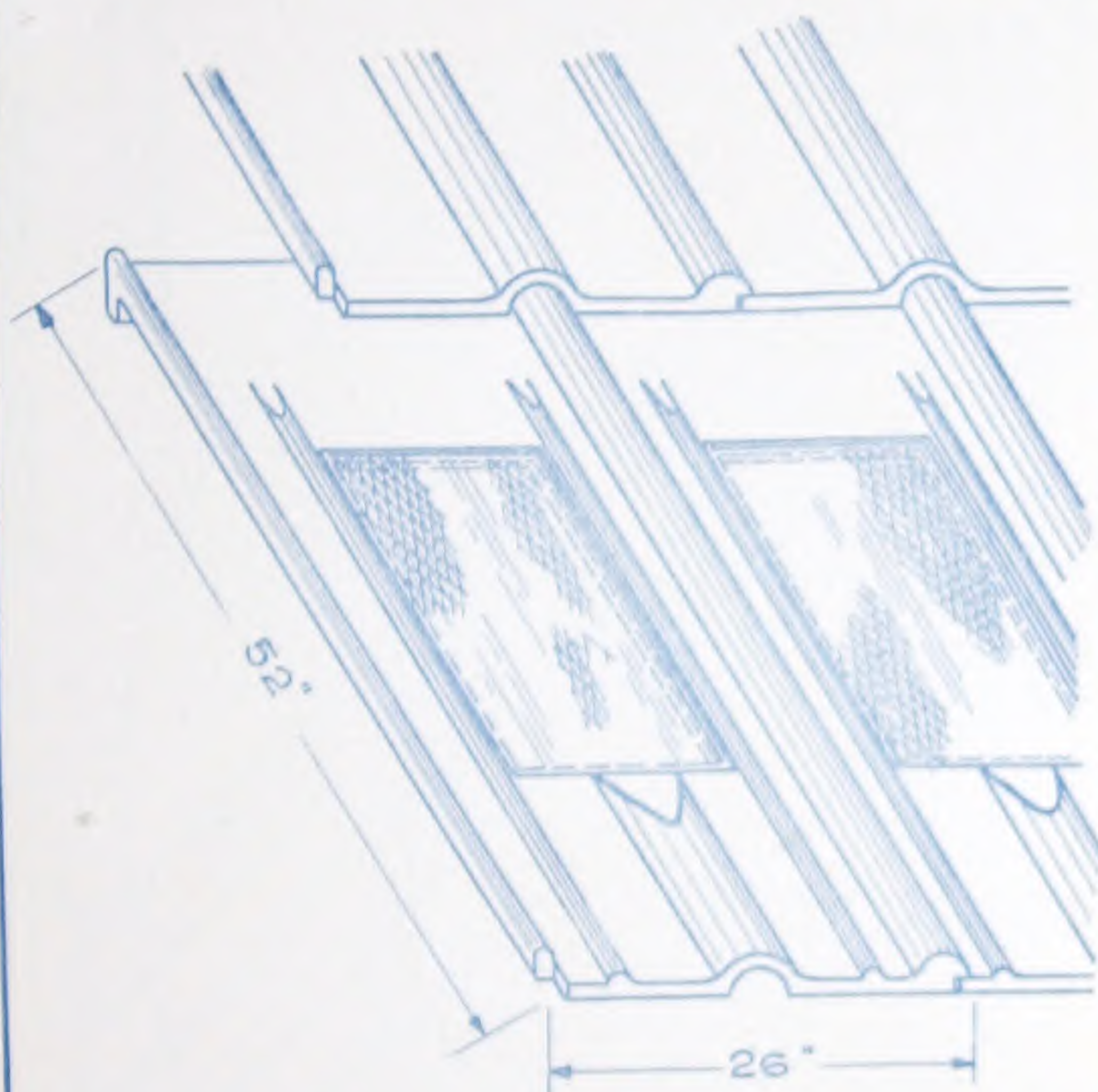
Suggestions for structural steel designing and detailing. Our Engineering Department will gladly submit additional details, or furnish complete purlin layout.

AMERICAN CEMENT TILE MANUFACTURING COMPANY
PITTSBURGH, PA.



GENERAL DIMENSIONS
OF STANDARD INTERLOCKING TILE AND RIDGE.

AMERICAN CEMENT TILE MANUFACTURING COMPANY
PITTSBURGH, PA.



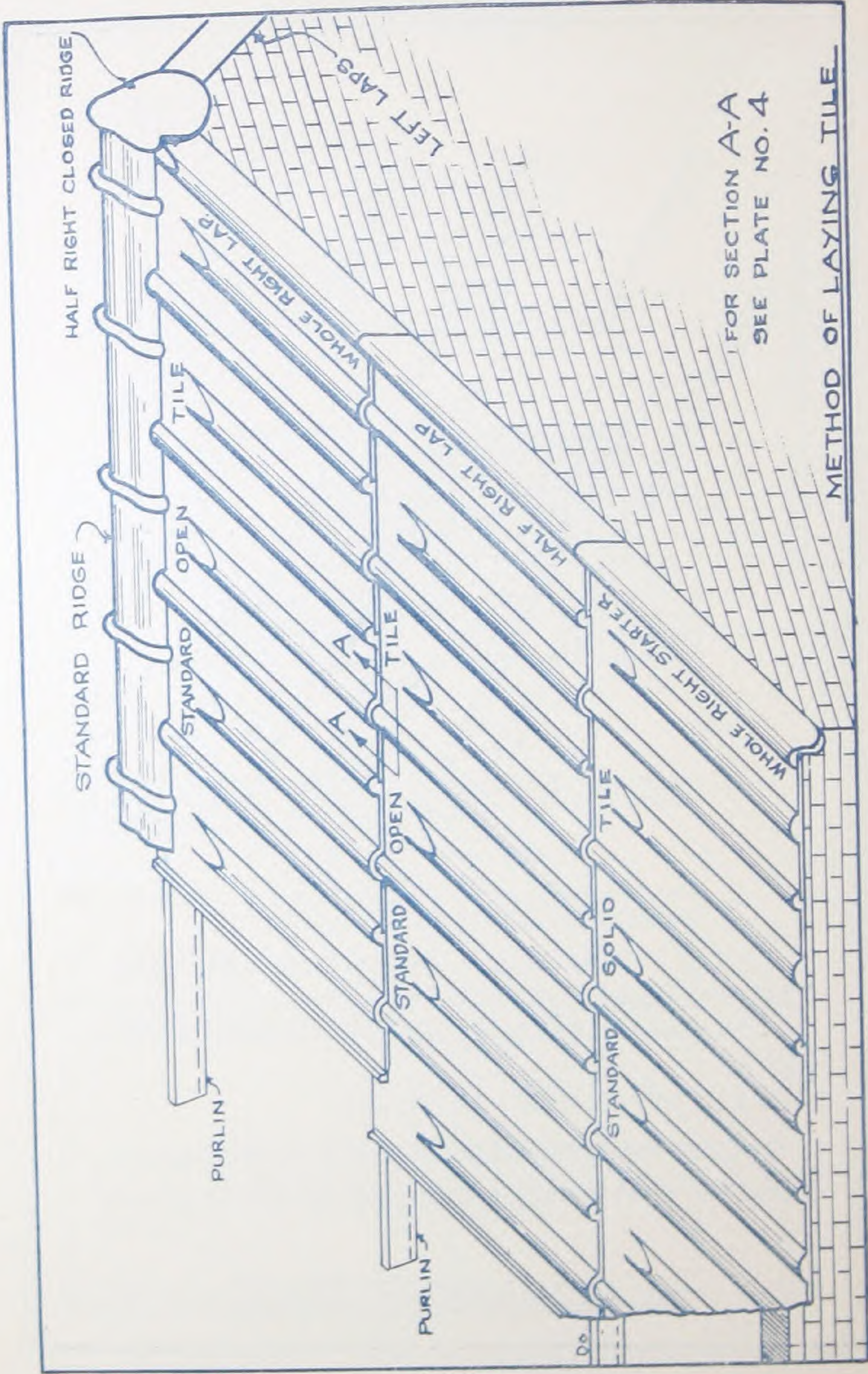
TILES WITH GLASS INSERTION ARE USED
FOR SKY-LIGHT EFFECTS.

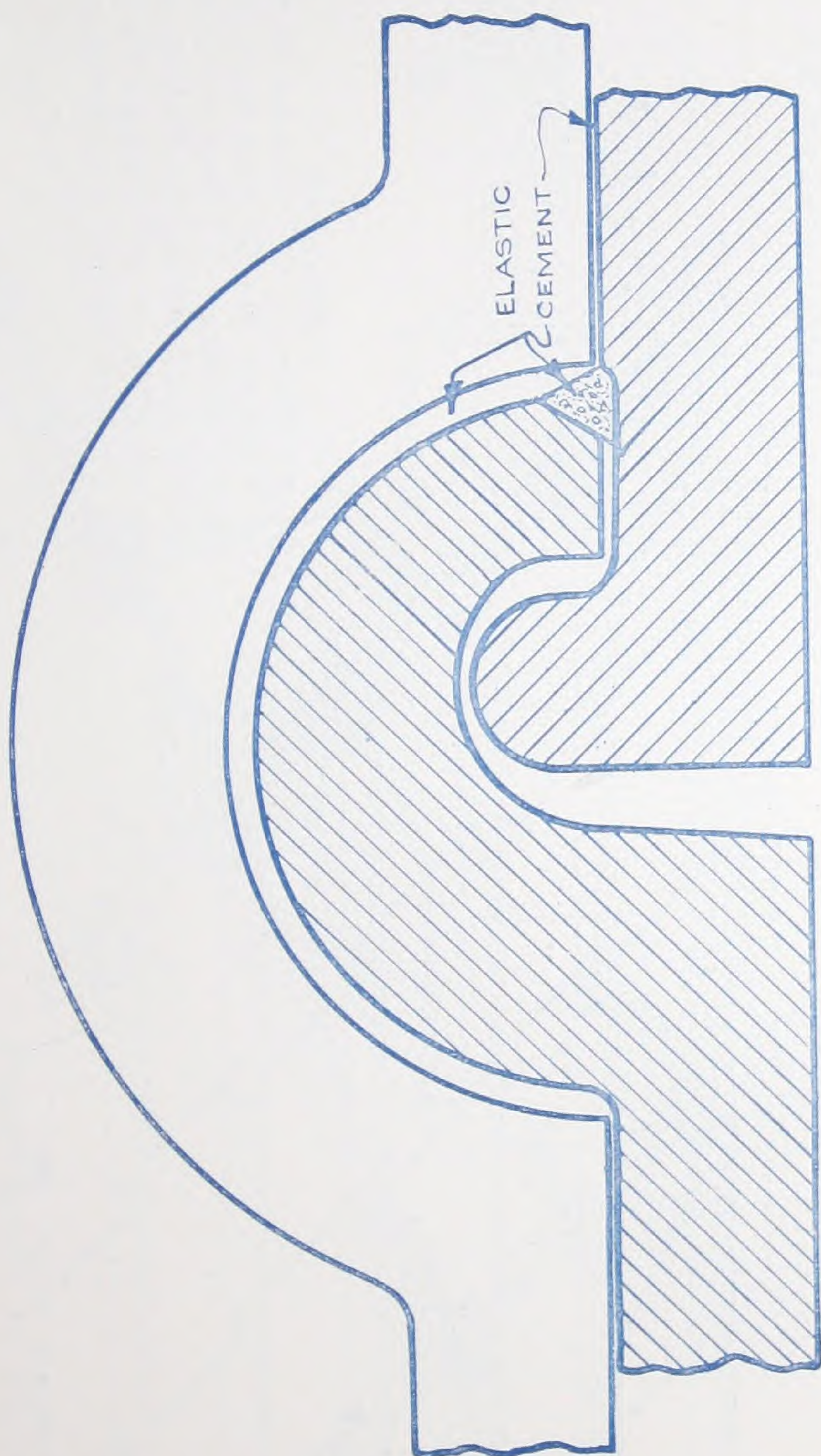
THE GLASS USED IS $\frac{1}{4}$ -INCH RIBBED WIRE
GLASS.

SIZE OF GLASS 14" X 26"

THESE TILE FURNISHED ONLY IN STANDARD
LENGTH FOR PURLIN SPACING 3'-10" to 4'-0 $\frac{1}{2}$ "

GLASS INSERT TILE.

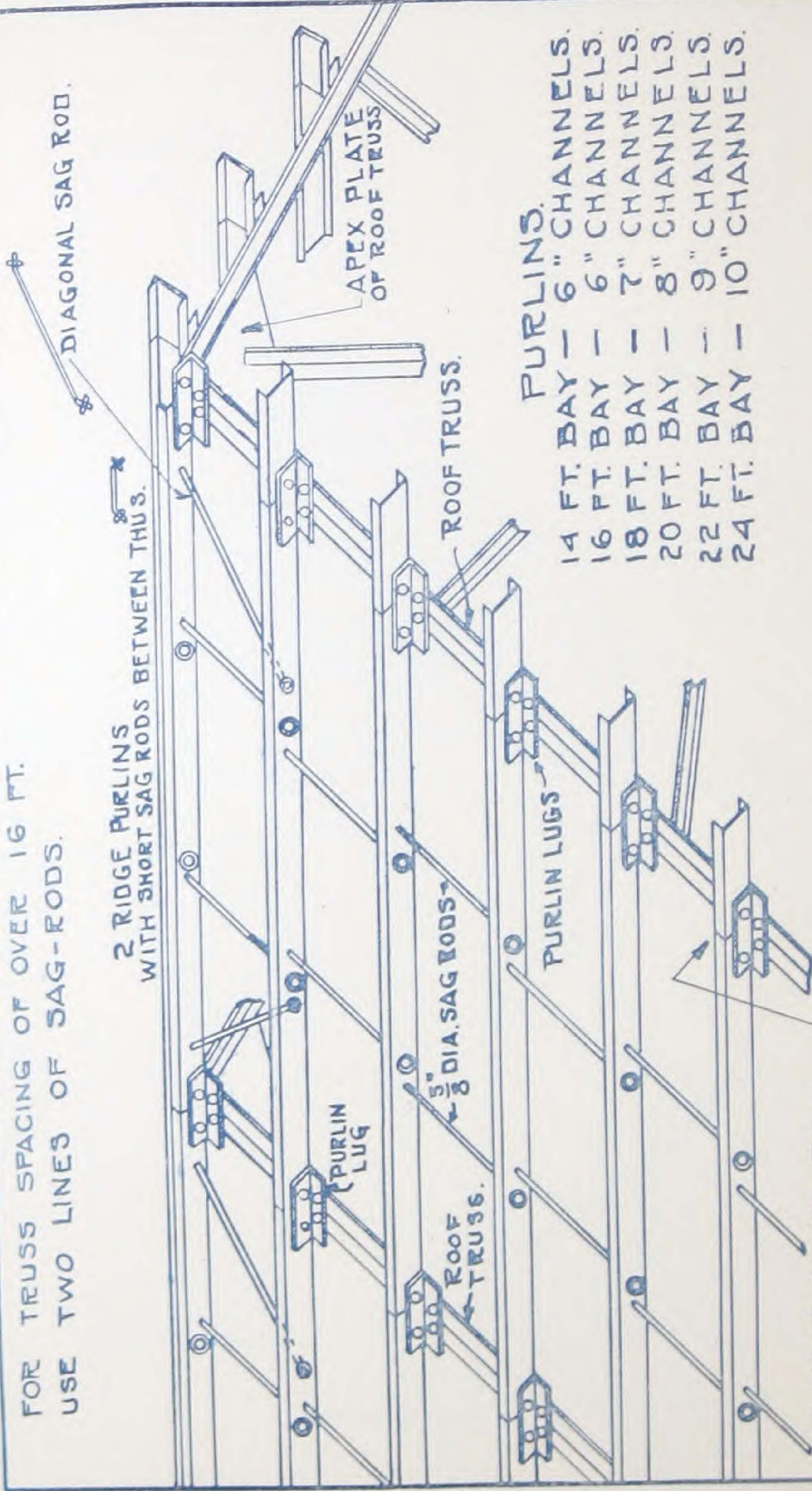




SECTION "AA" THRU SIDE ROLL.

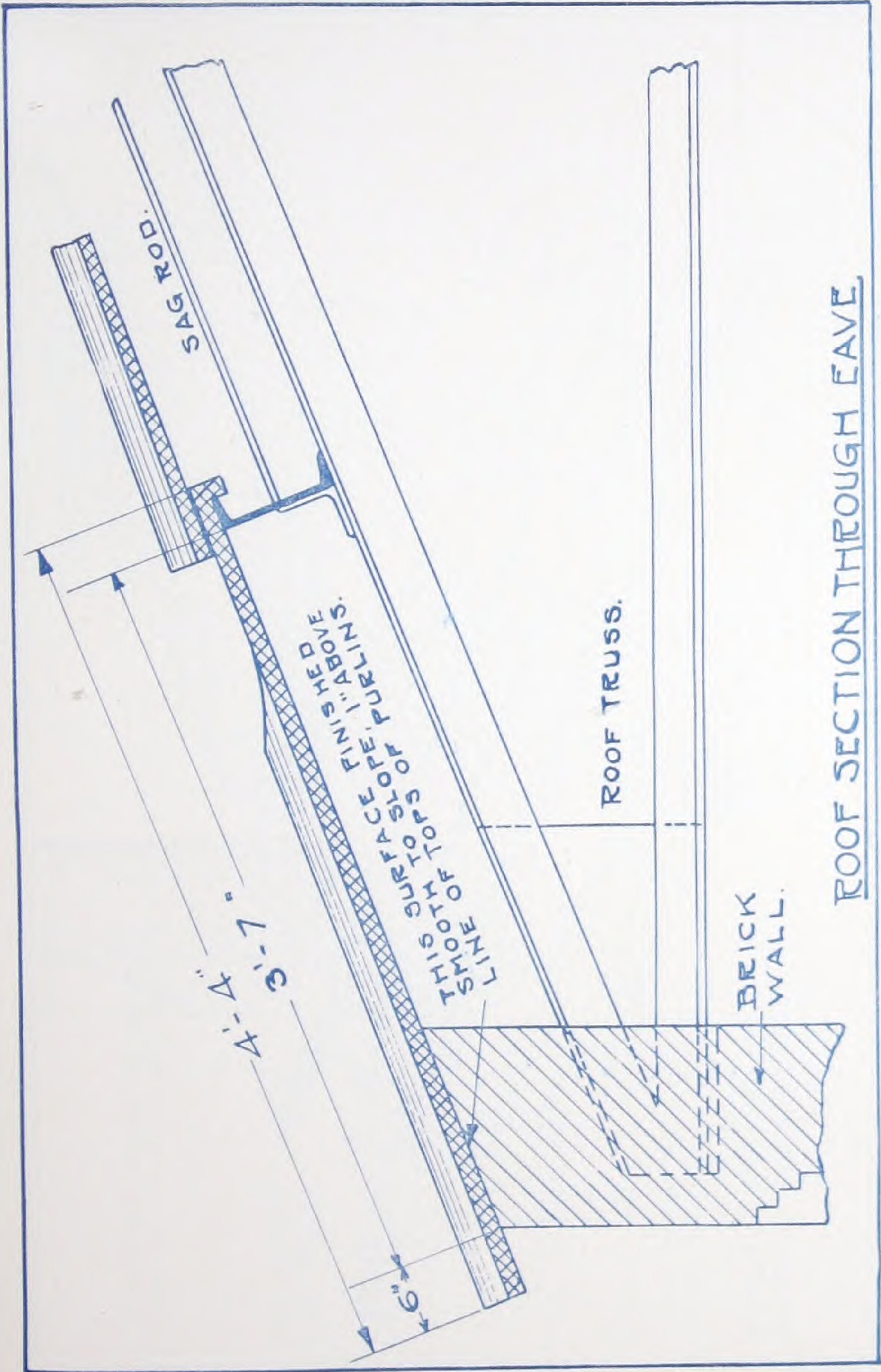
FOR TRUSS SPACING OF OVER 16 FT.
USE TWO LINES OF SAG-RODS.

2 RIDGE PURLINS
WITH SHORT SAG RODS BETWEEN THUS.



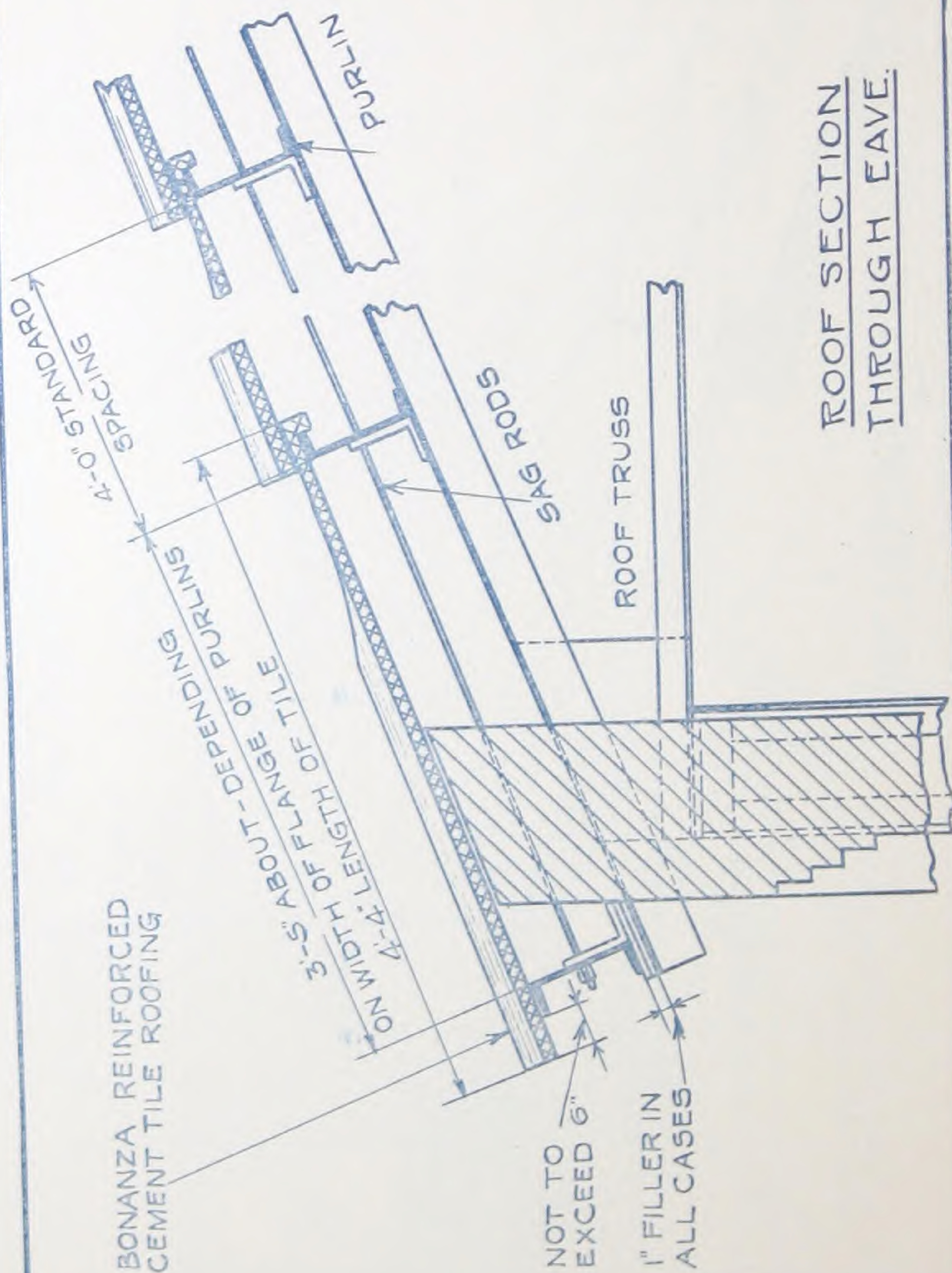
PURLINS.	
14 FT. BAY	— 6" CHANNELS.
16 FT. BAY	— 6" CHANNELS.
18 FT. BAY	— 7" CHANNELS.
20 FT. BAY	— 8" CHANNELS.
22 FT. BAY	— 9" CHANNELS.
24 FT. BAY	— 10" CHANNELS.

ROOF FRAMING FOR "BONANZA" TILE.



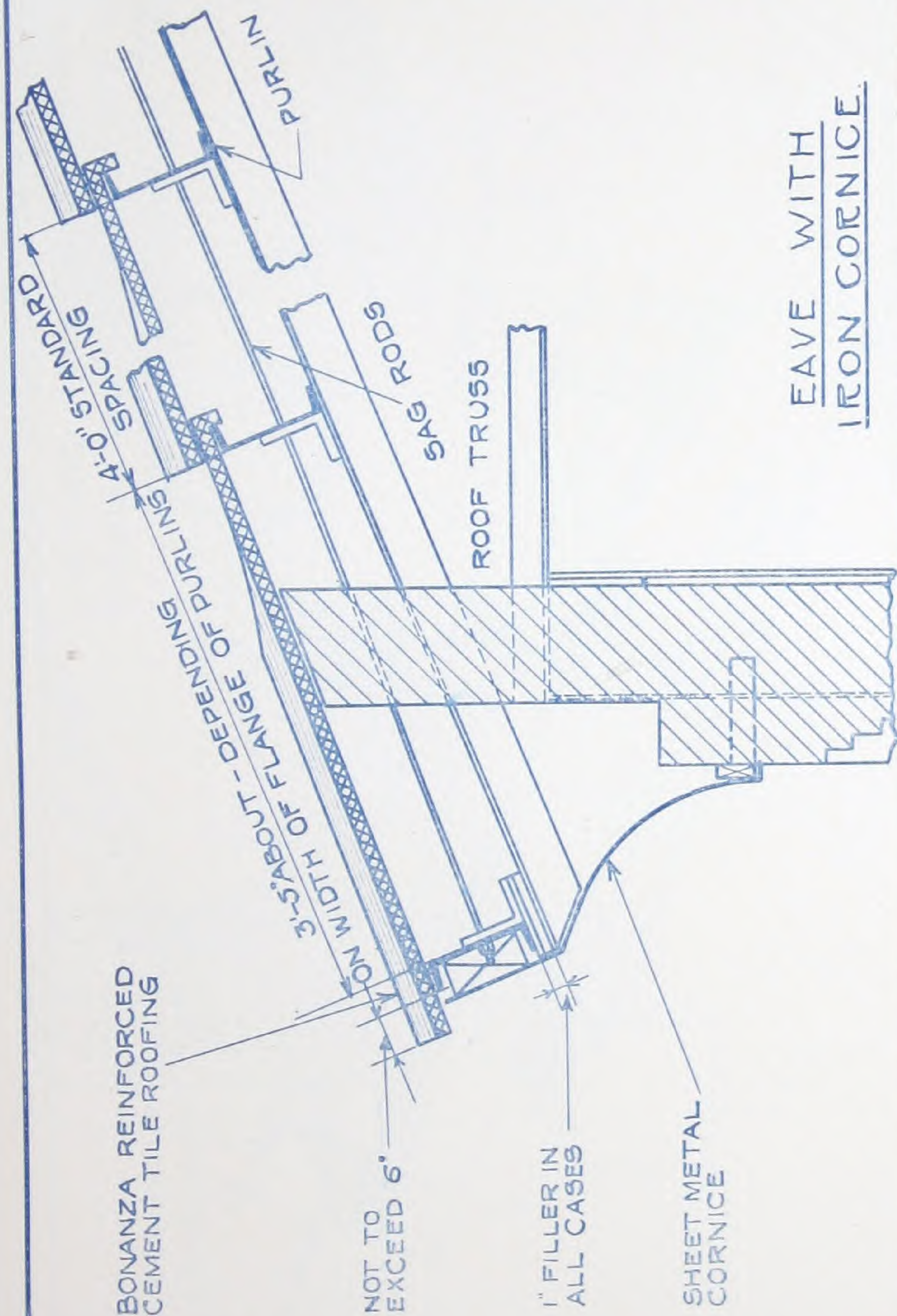
ROOF SECTION THROUGH EAVE

AMERICAN CEMENT TILE MANUFACTURING COMPANY
PITTSBURGH, PA.

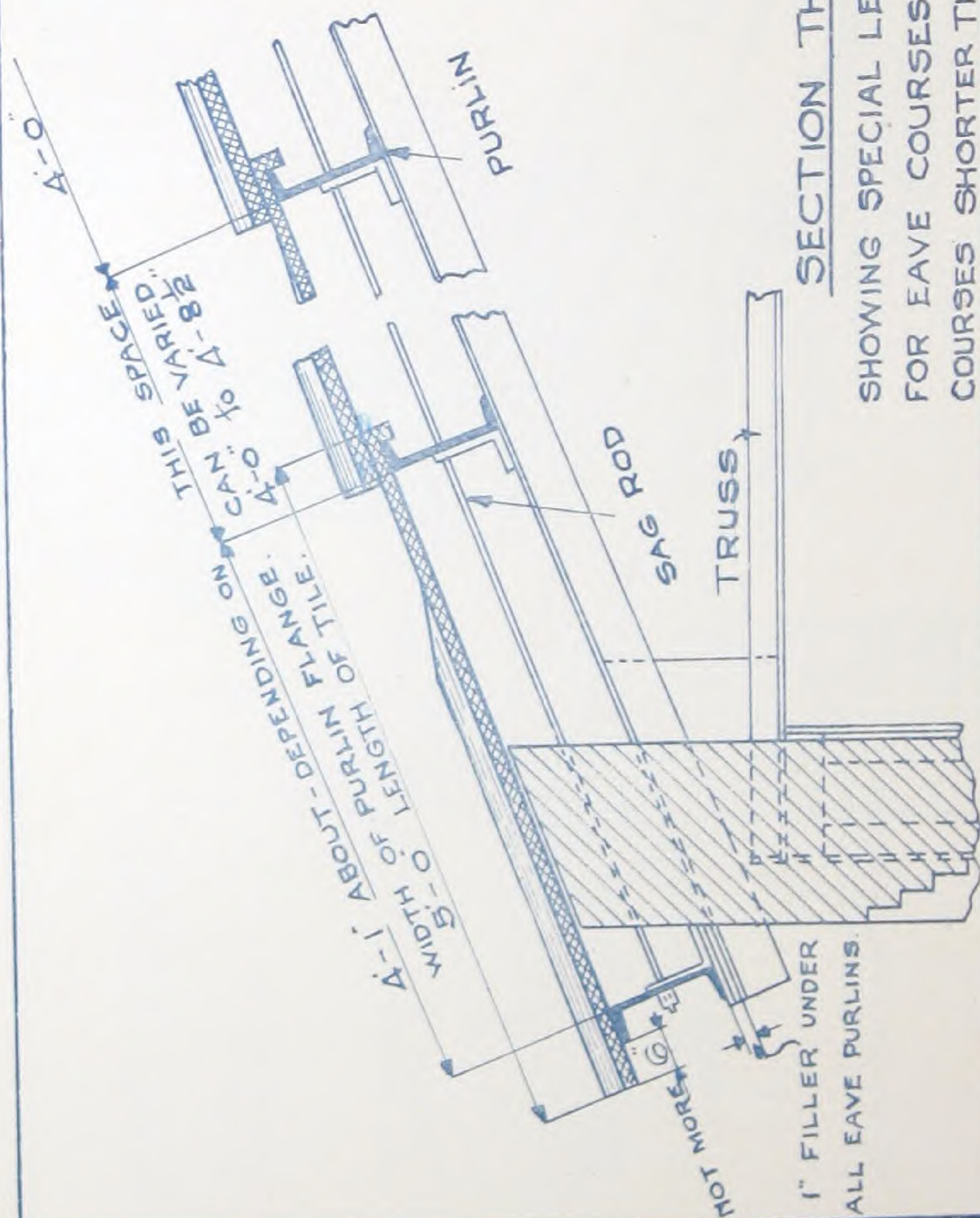


ROOF SECTION
THROUGH EAVE.

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PITTSBURGH, PA.

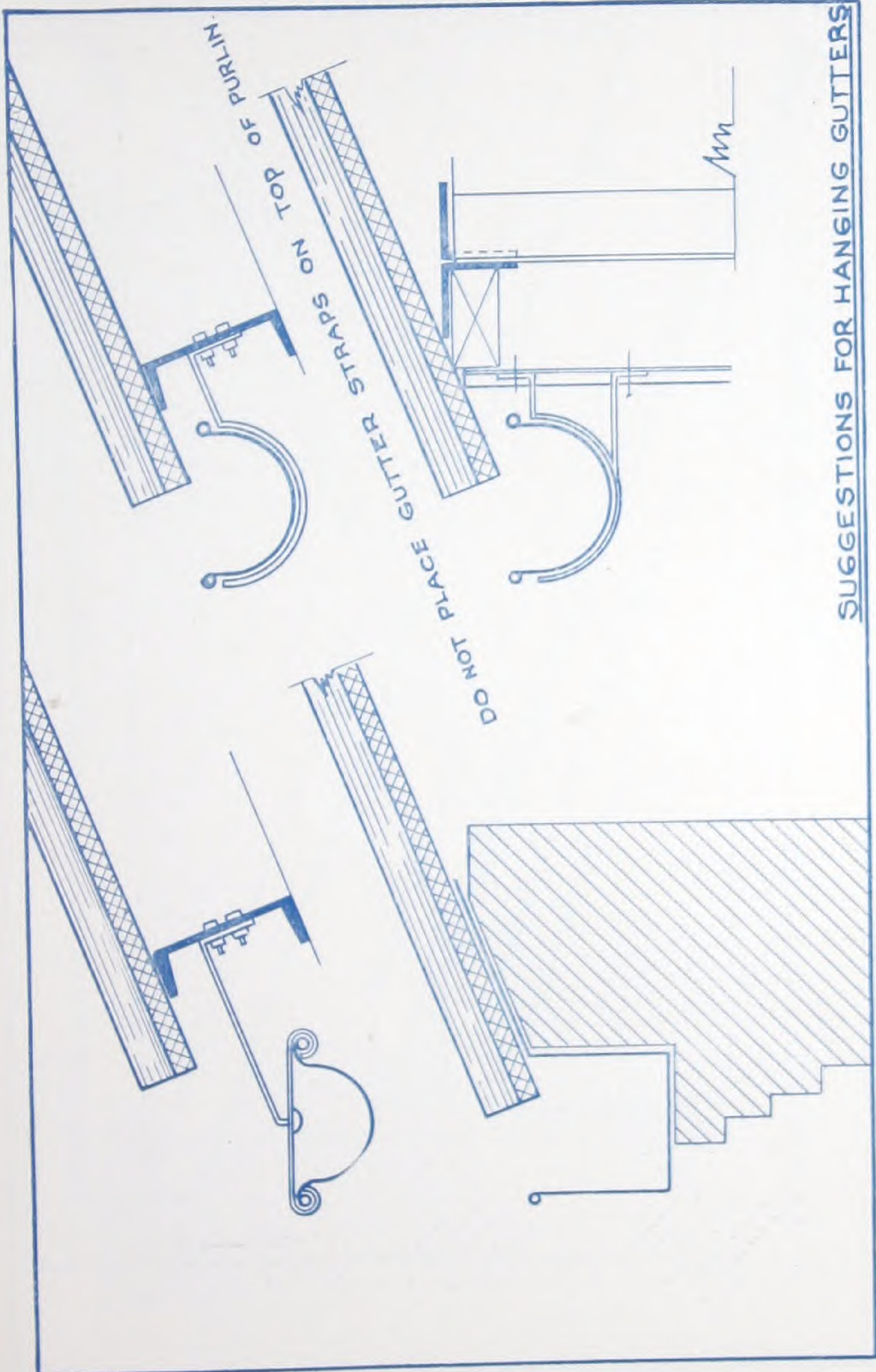


EAVE WITH
IRON CORNICE.

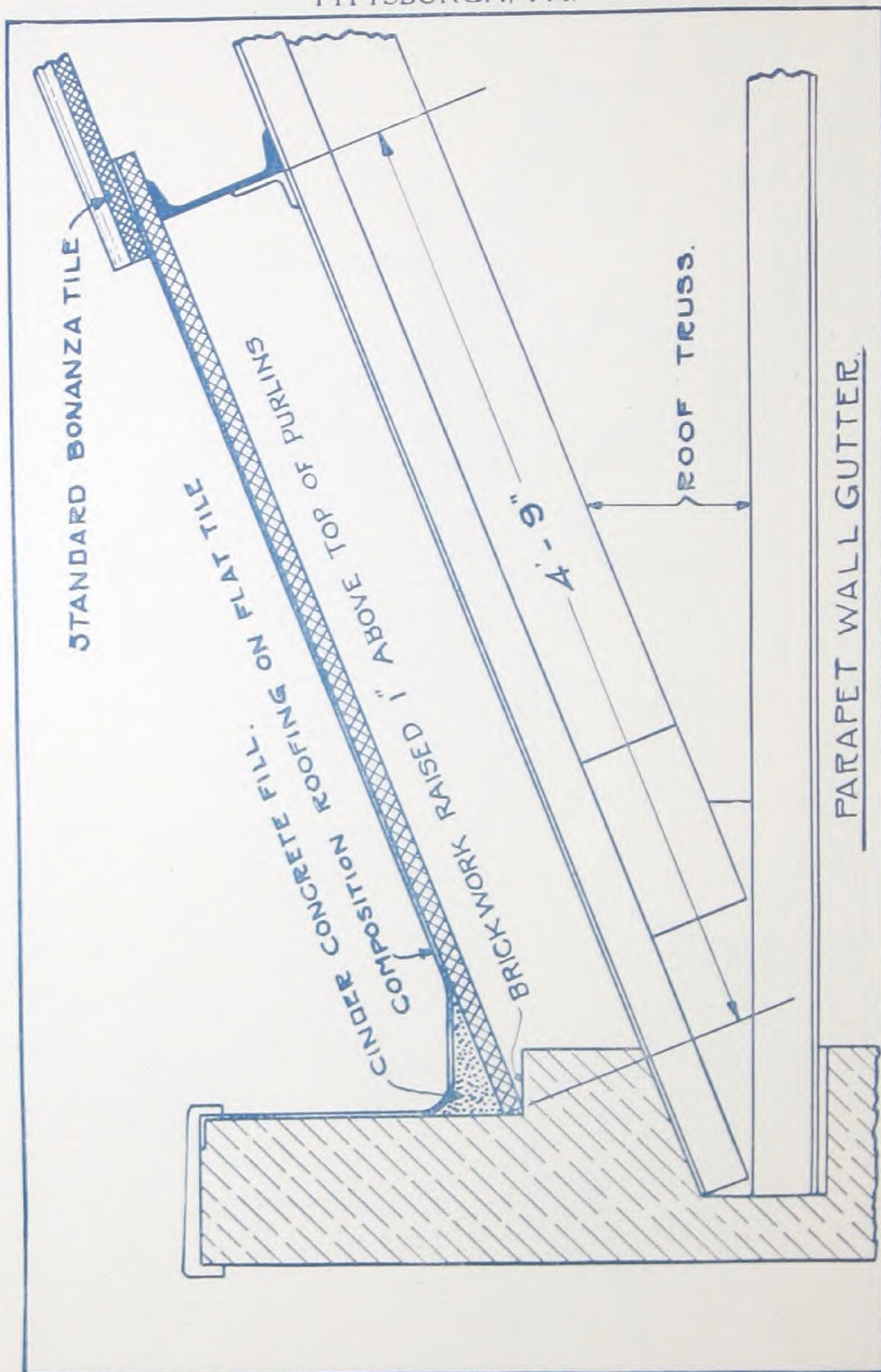


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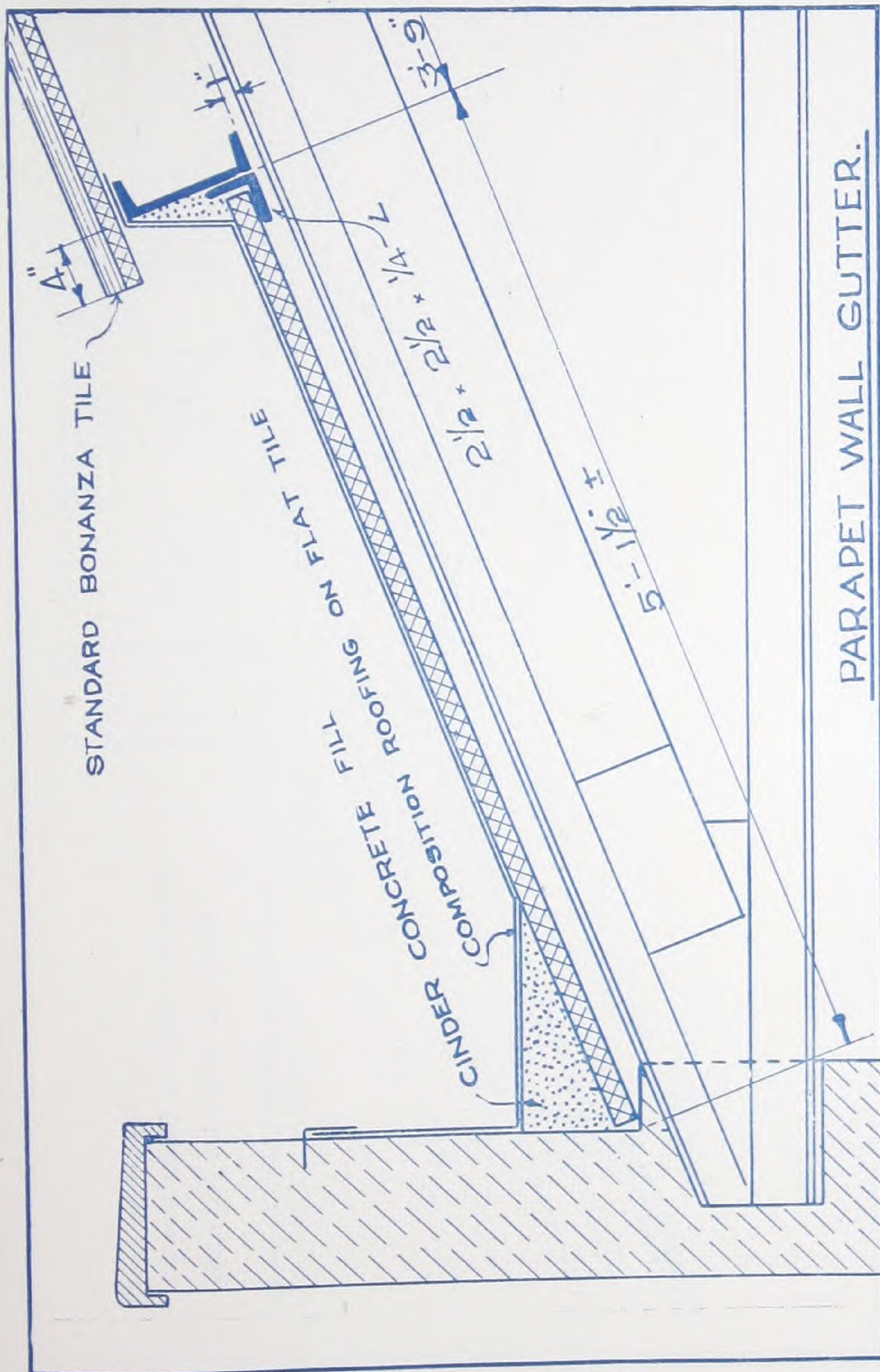
SUGGESTIONS FOR HANGING GUTTERS



AMERICAN CEMENT TILE MANUFACTURING COMPANY
PITTSBURGH, PA.

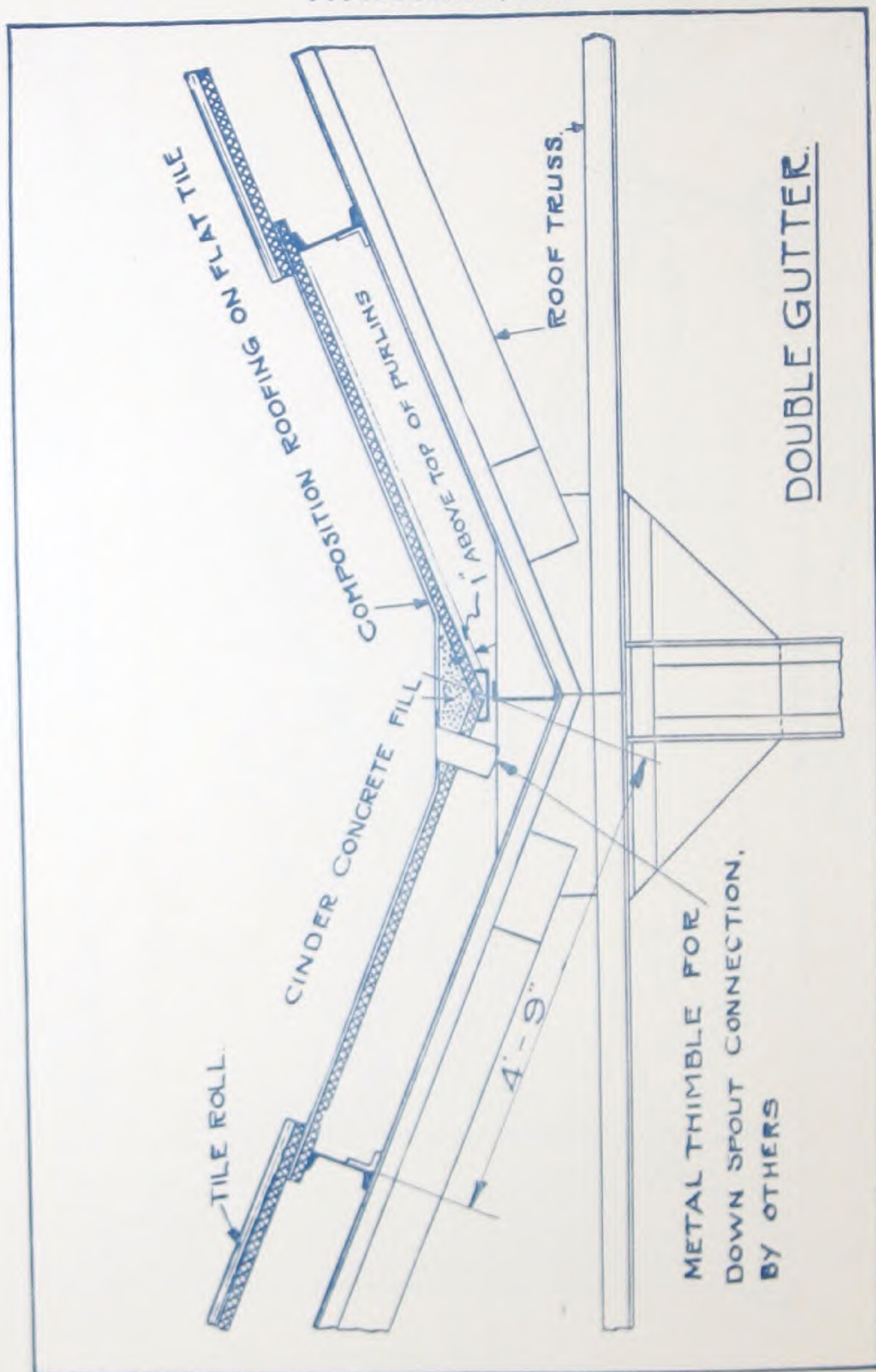


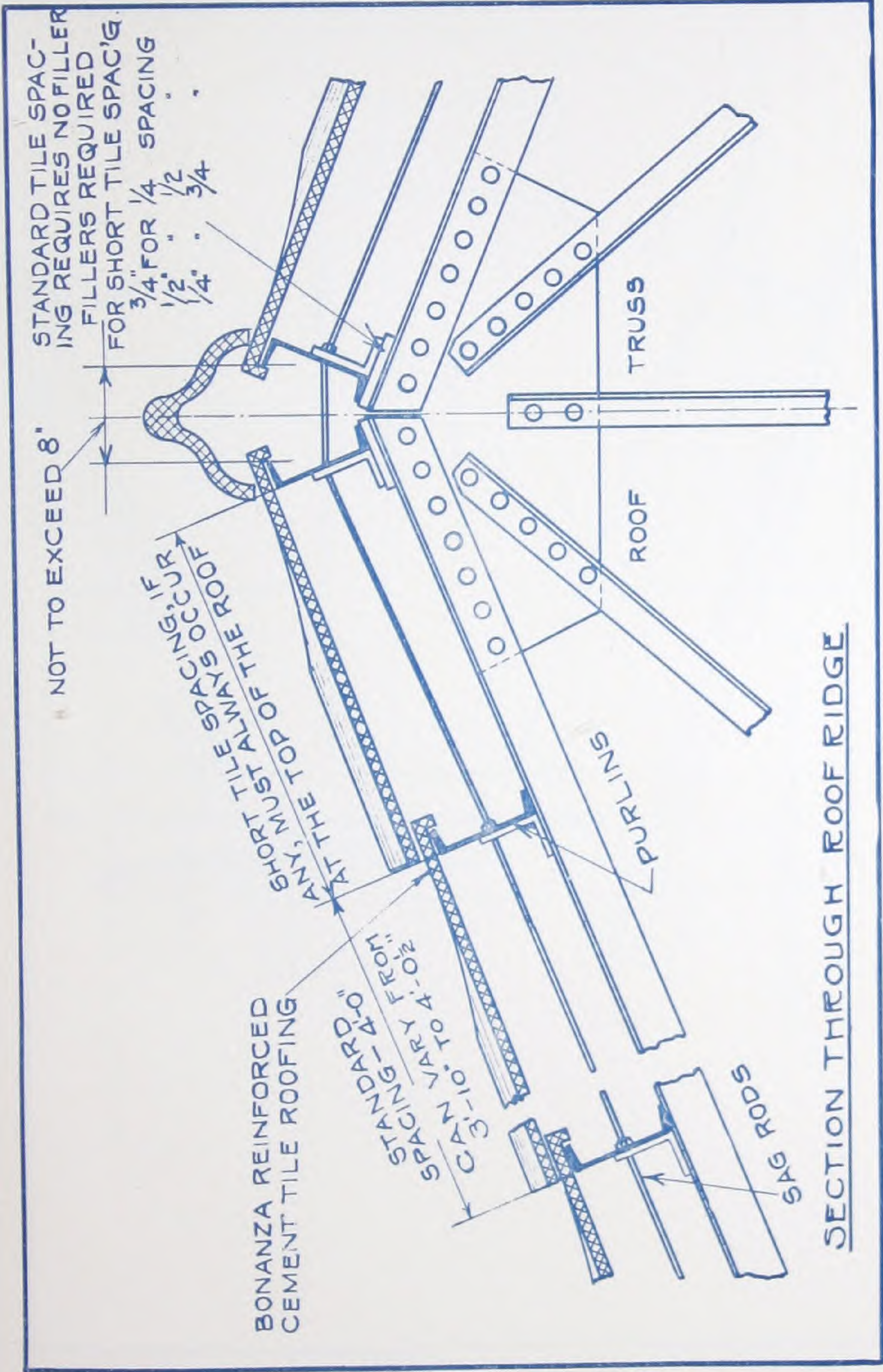
AMERICAN CEMENT TILE MANUFACTURING COMPANY
PITTSBURGH, PA.



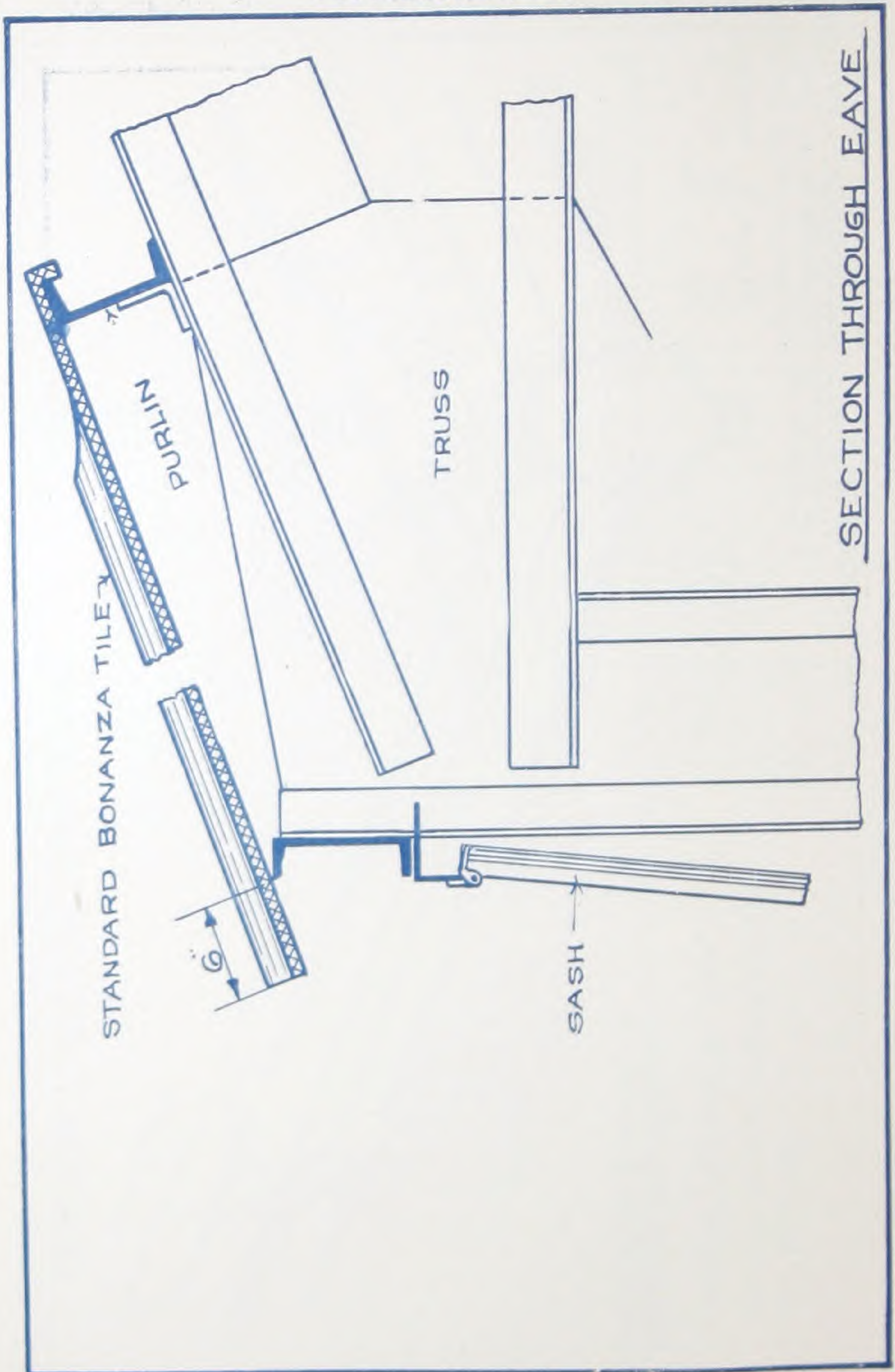
PARAPET WALL GUTTER.

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PITTSBURGH, PA.

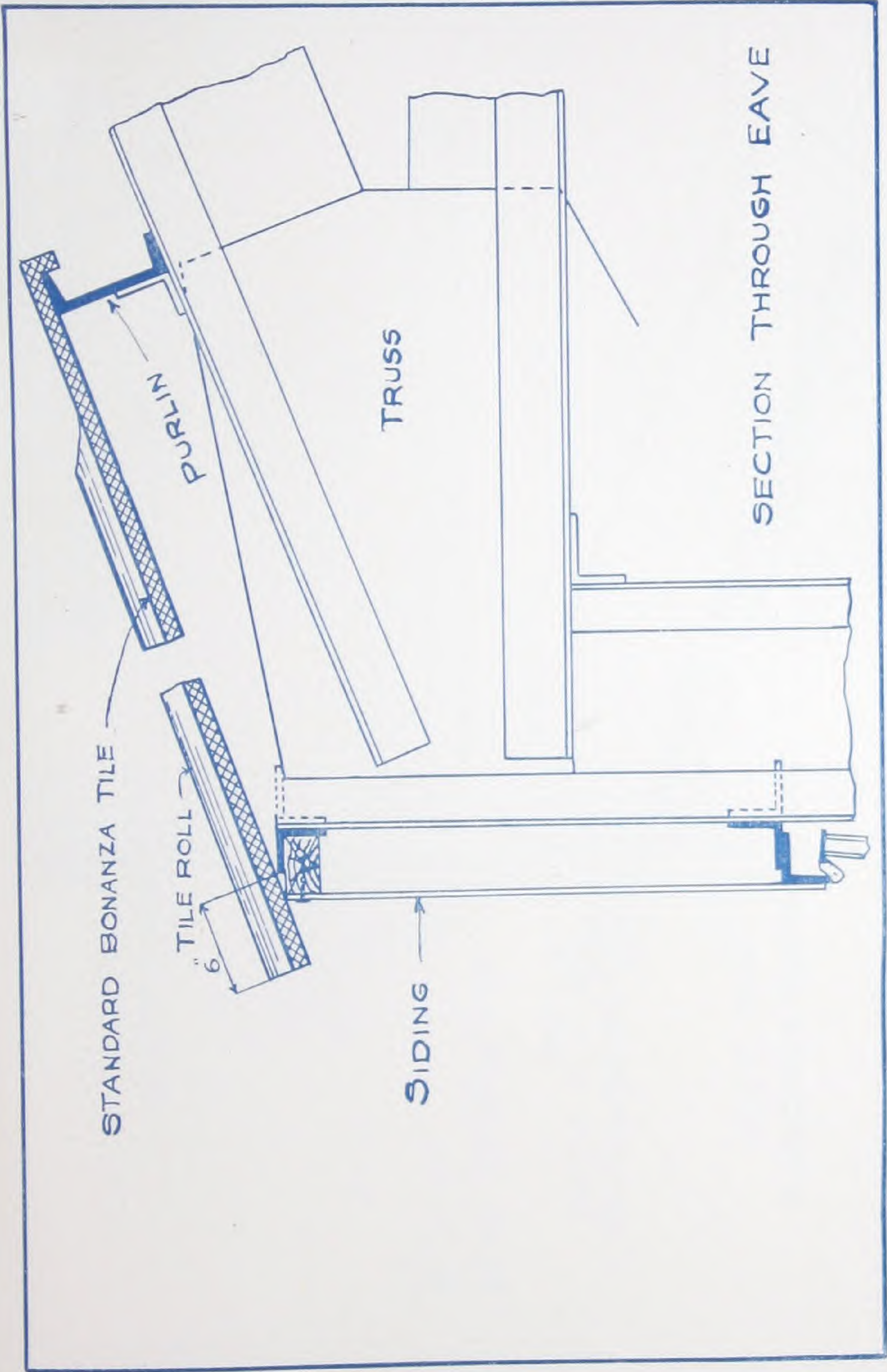


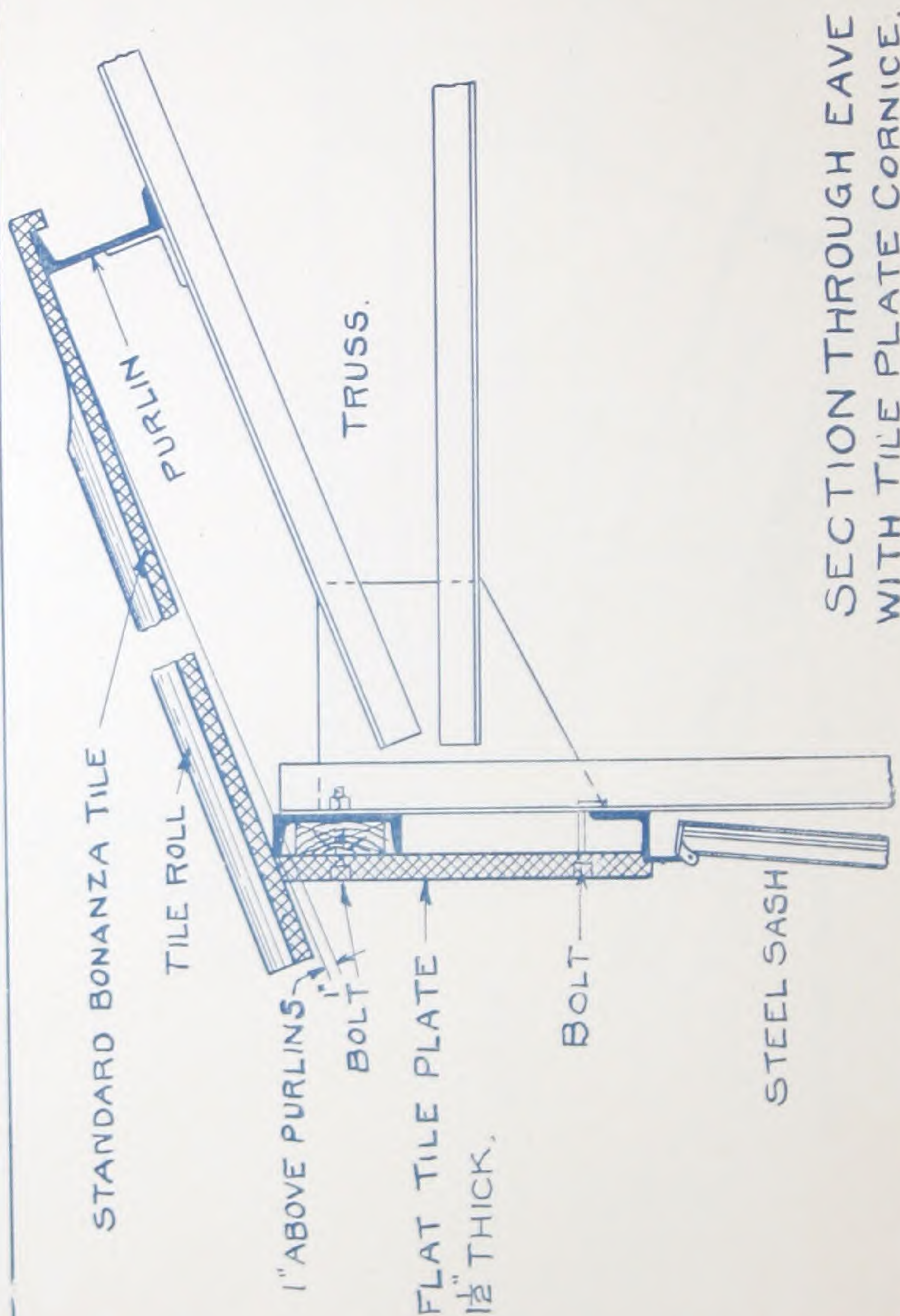


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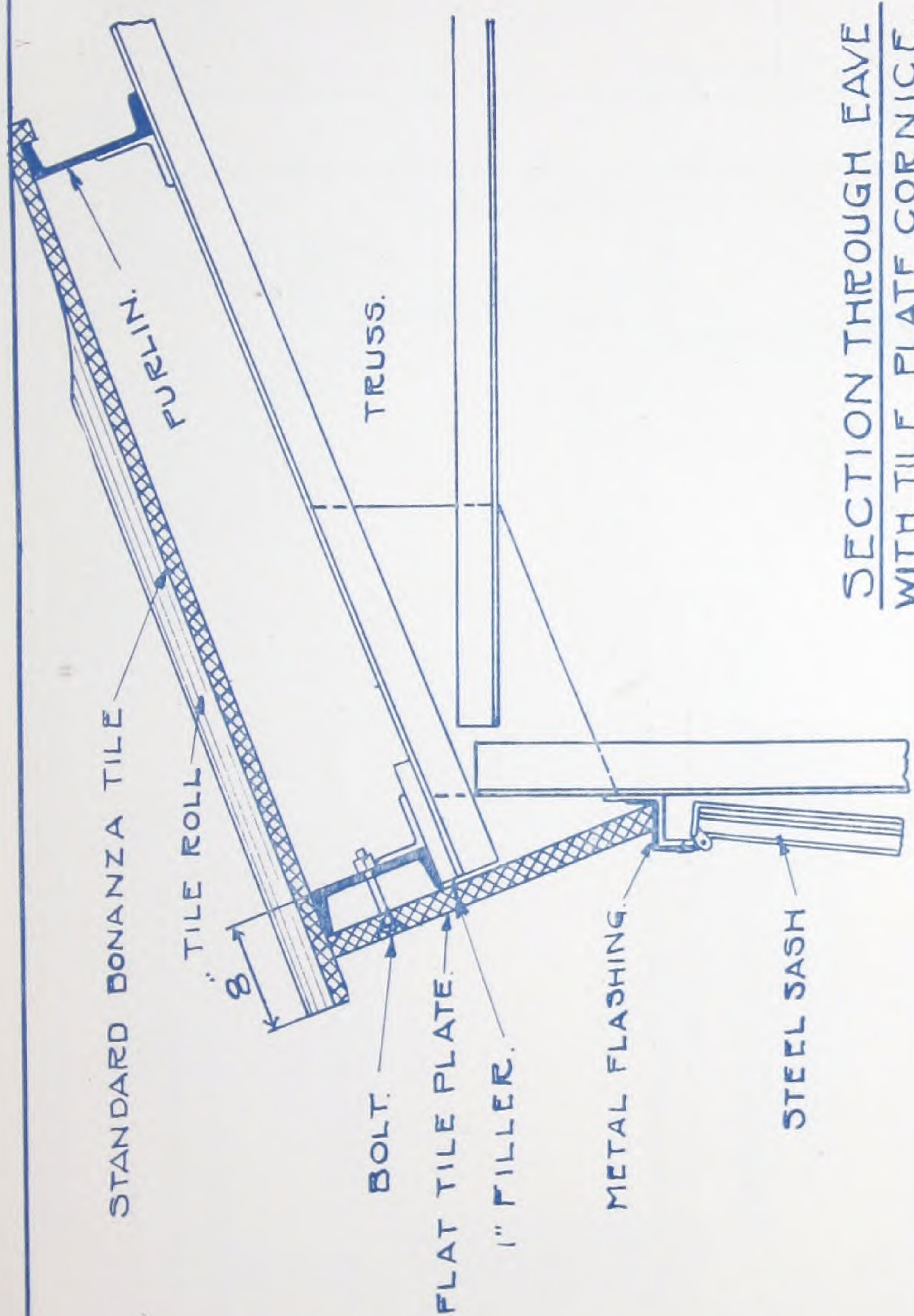


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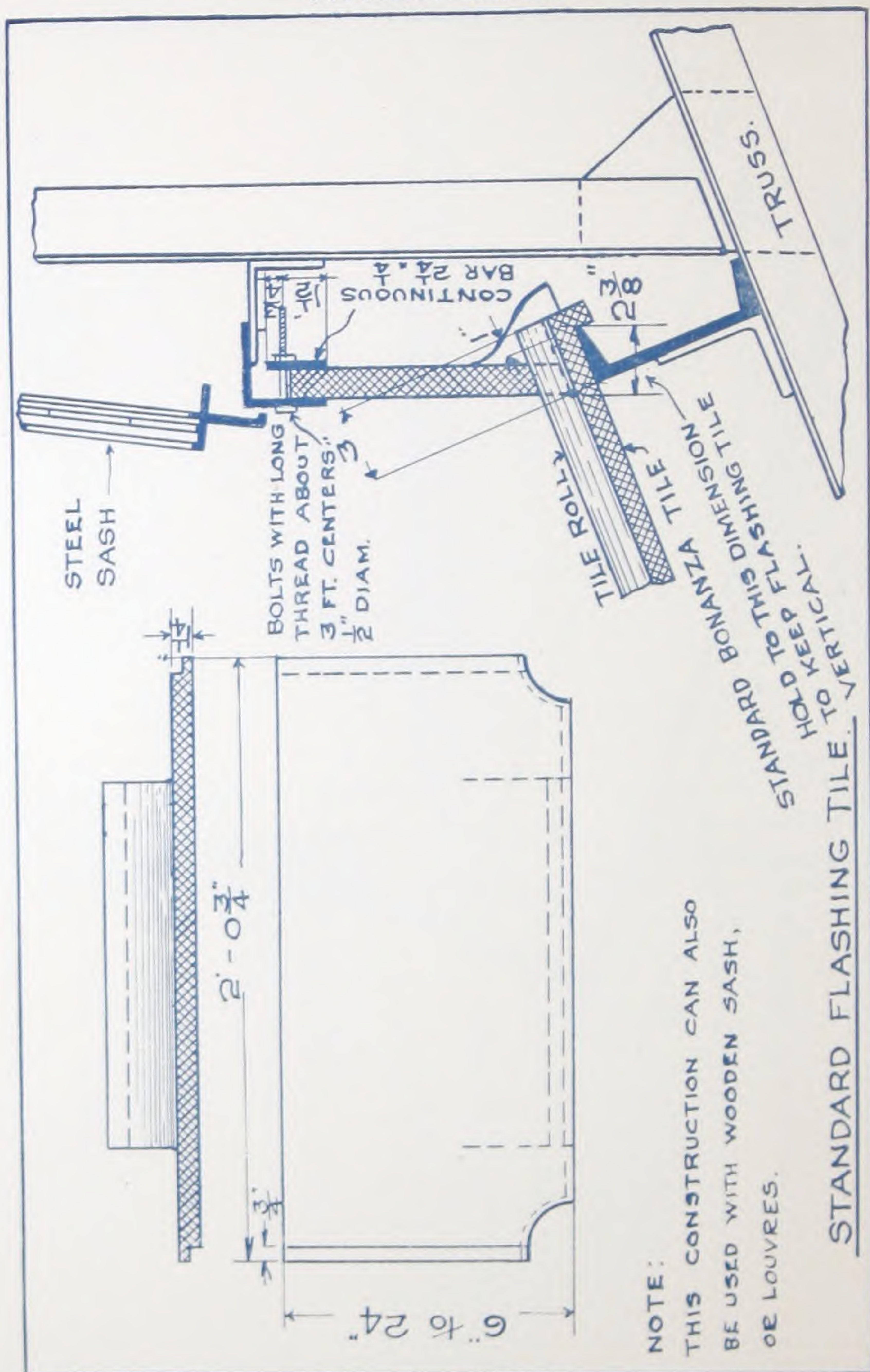




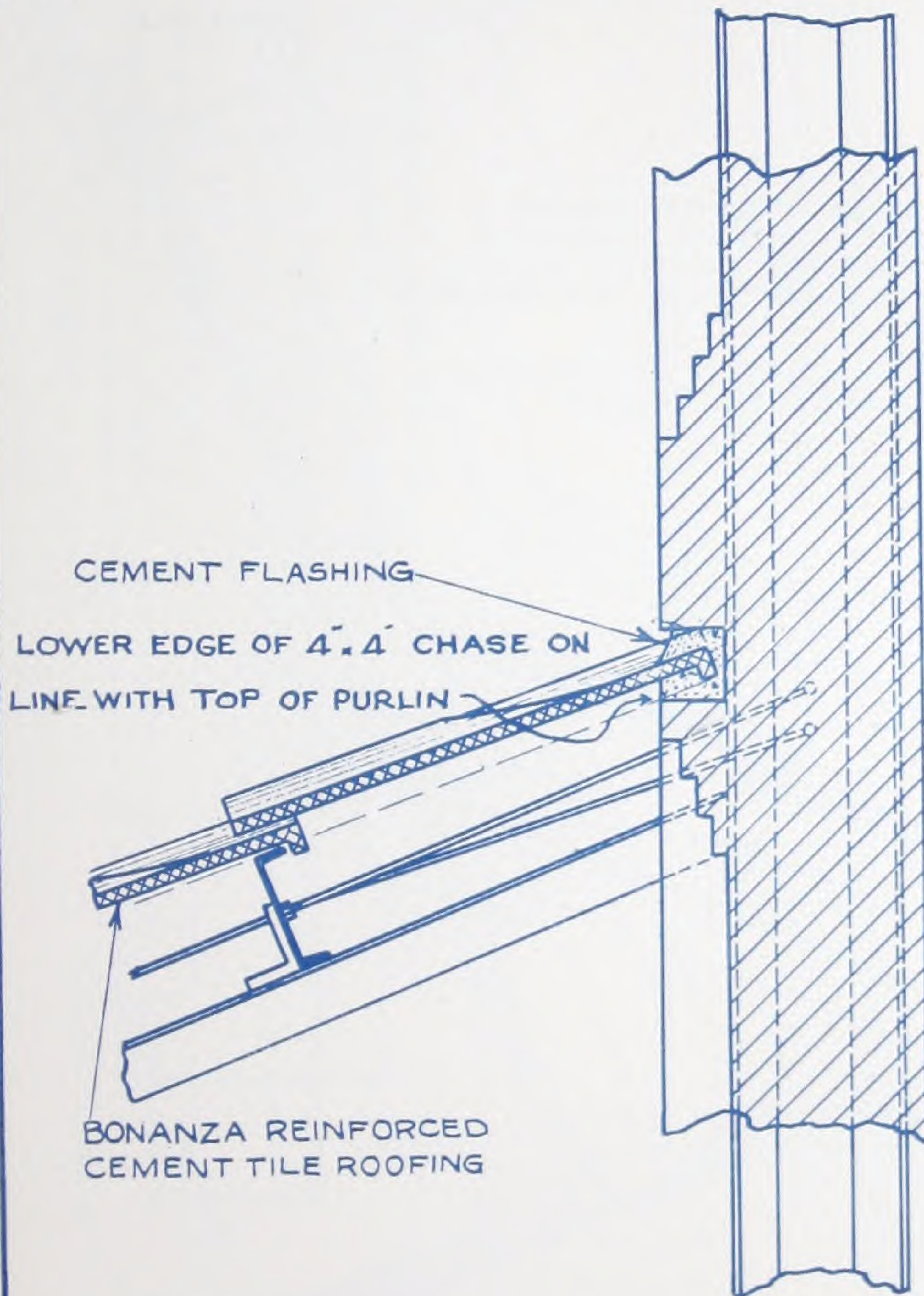
SECTION THROUGH EAVE
WITH TILE PLATE CORNICE.



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PITTSBURGH, PA.

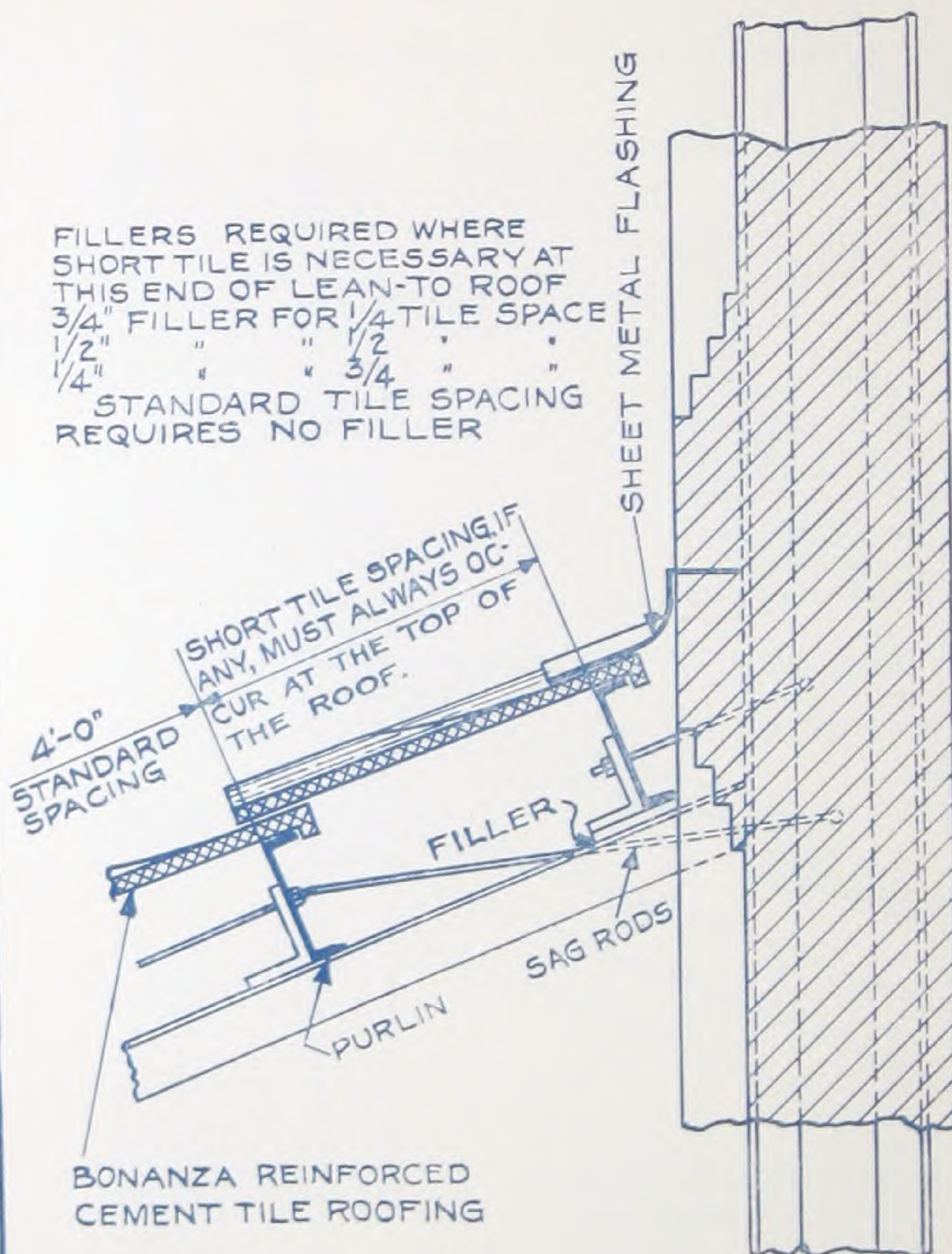


AMERICAN CEMENT TILE MANUFACTURING COMPANY
PITTSBURGH, PA.



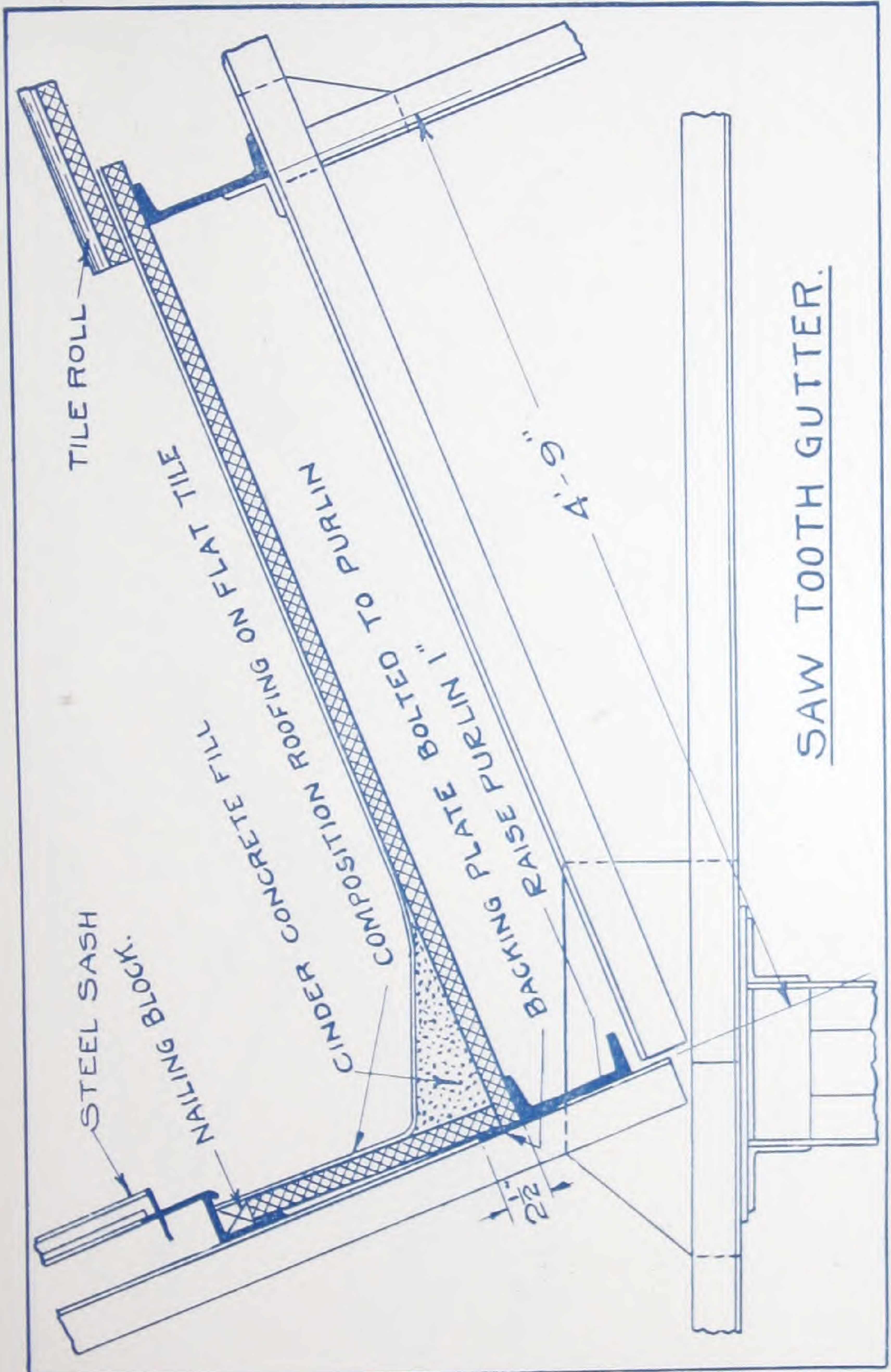
SECTION, LEAN-TO ROOF.

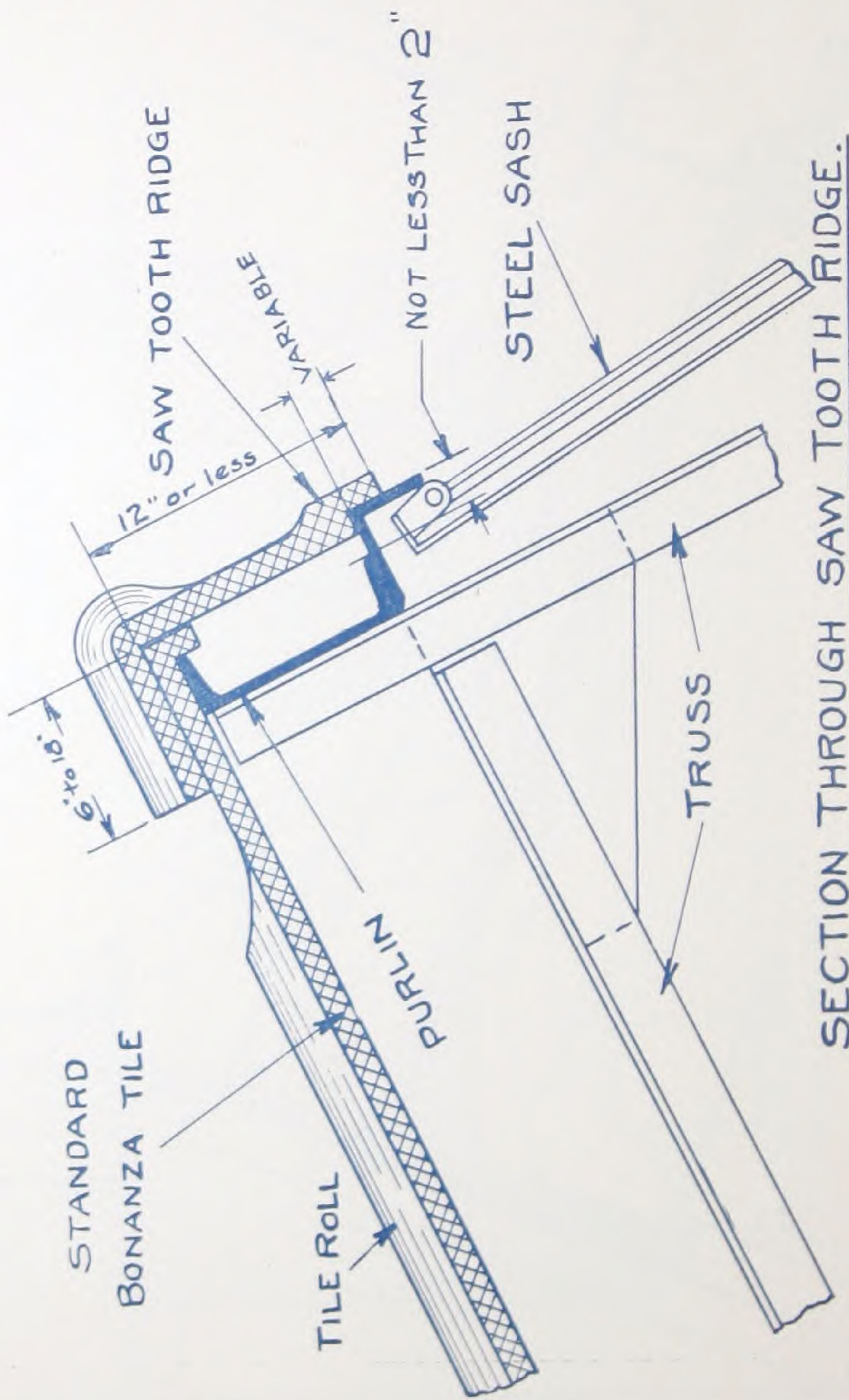
AMERICAN CEMENT TILE MANUFACTURING COMPANY
PITTSBURGH, PA.

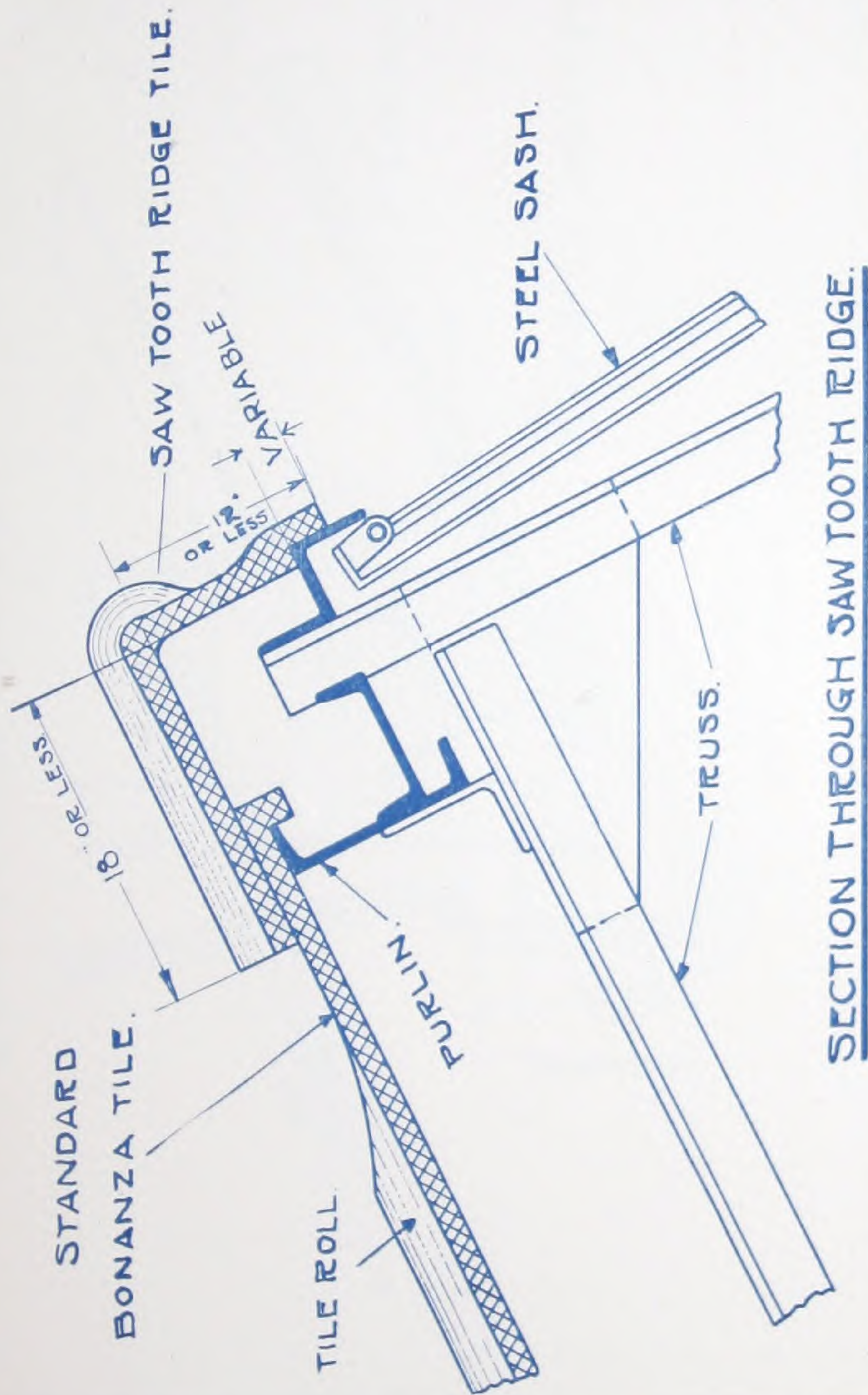


SECTION, LEAN-TO ROOF.

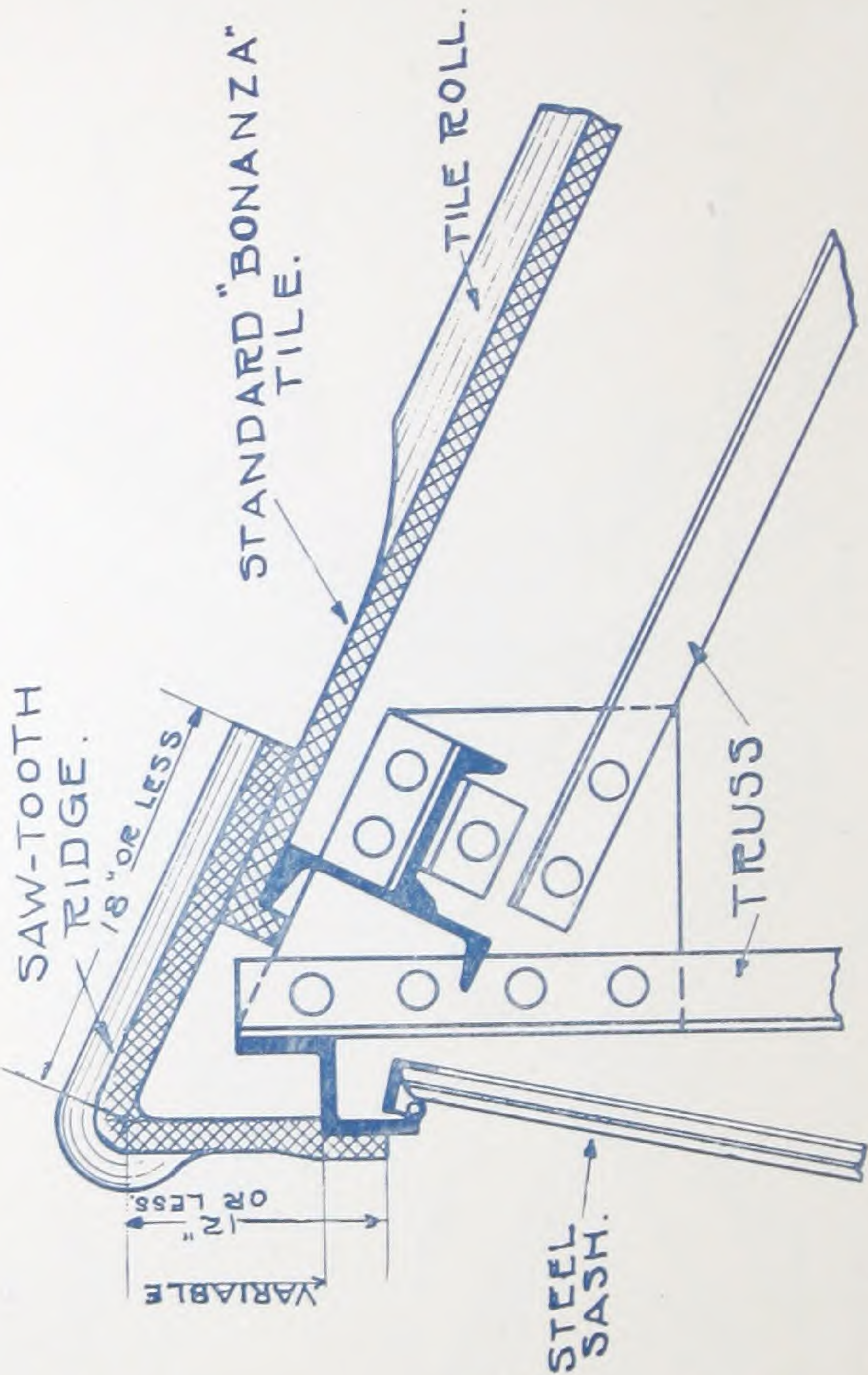
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PITTSBURGH, PA.



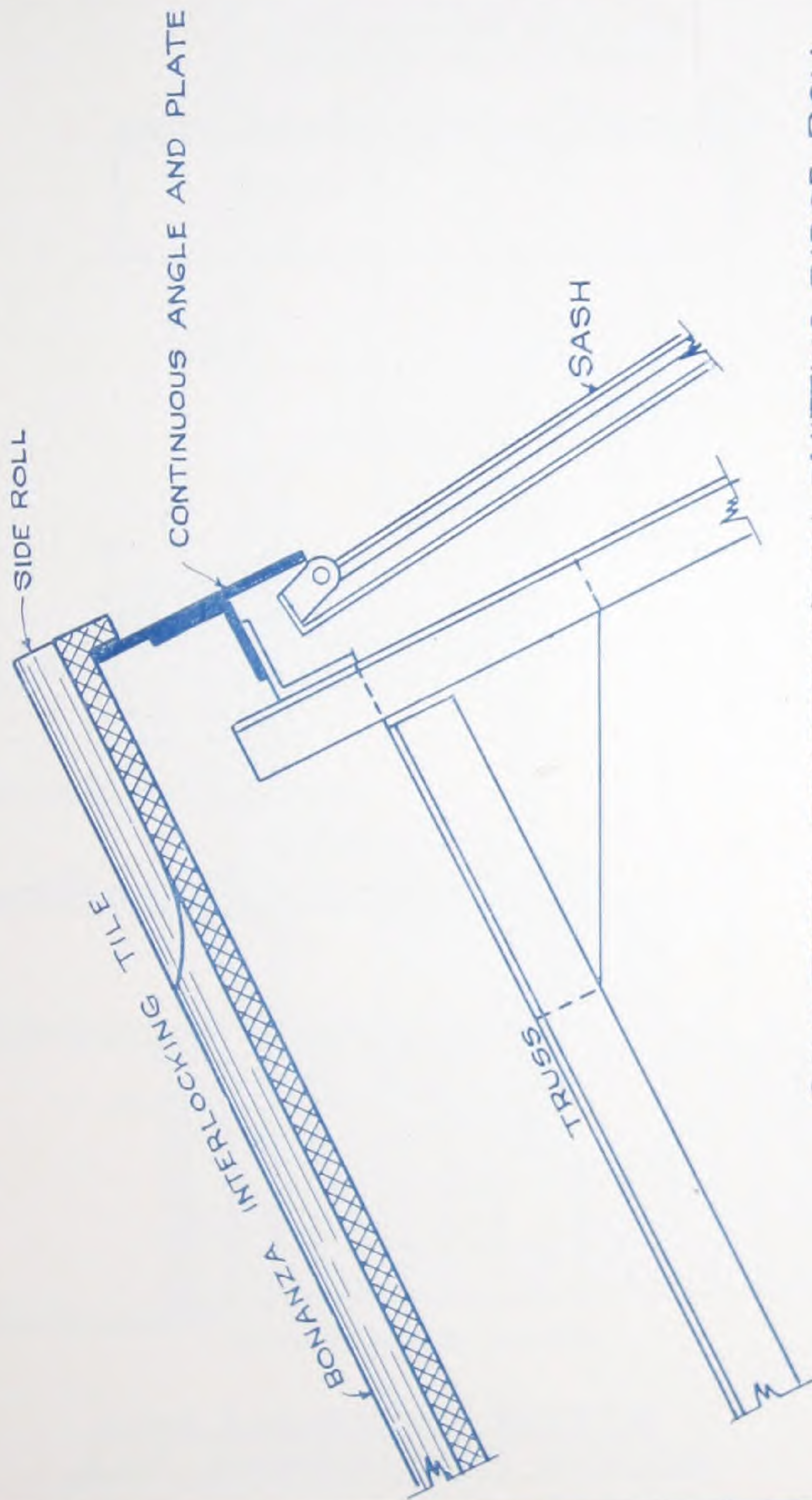




SECTION THROUGH SAW TOOTH RIDGE.

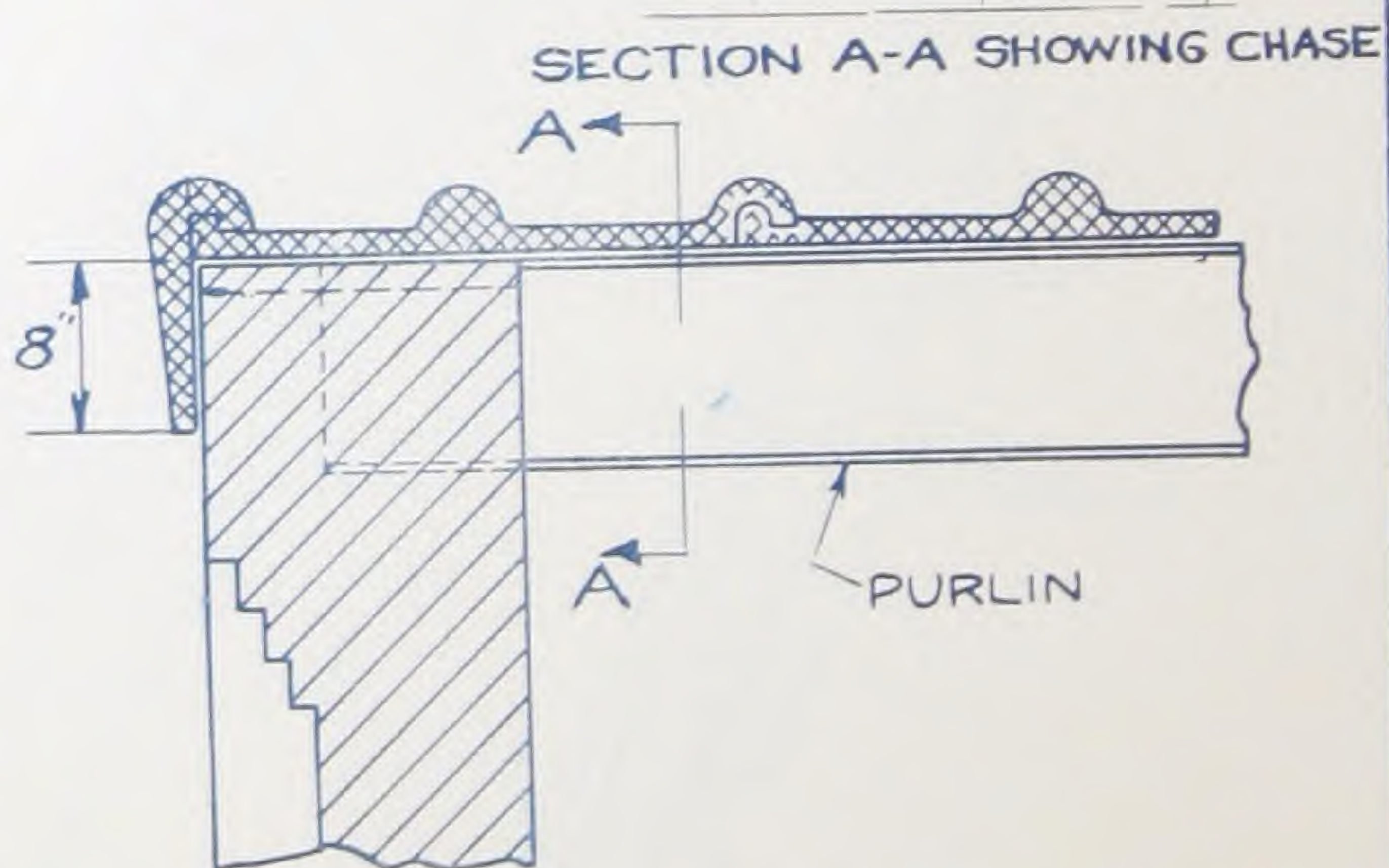
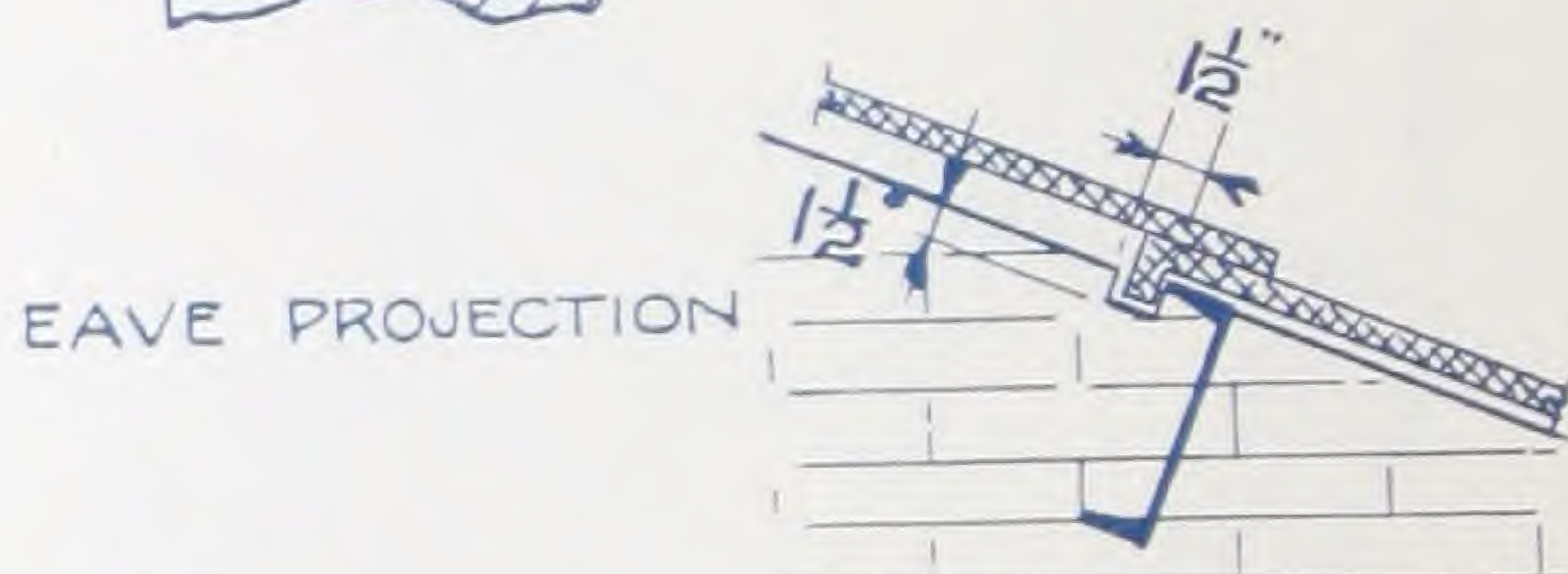
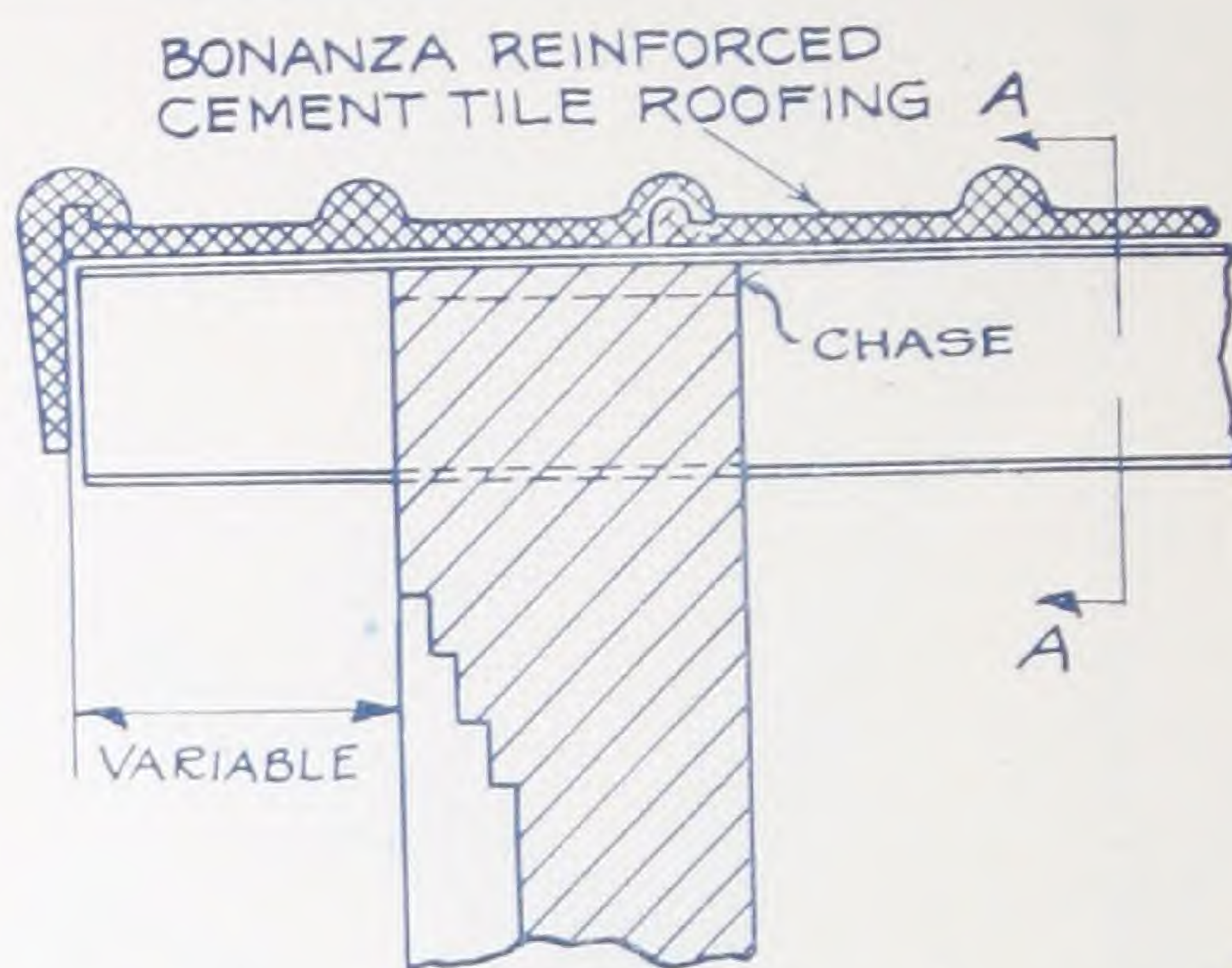


SAW-TOOTH RIDGE.



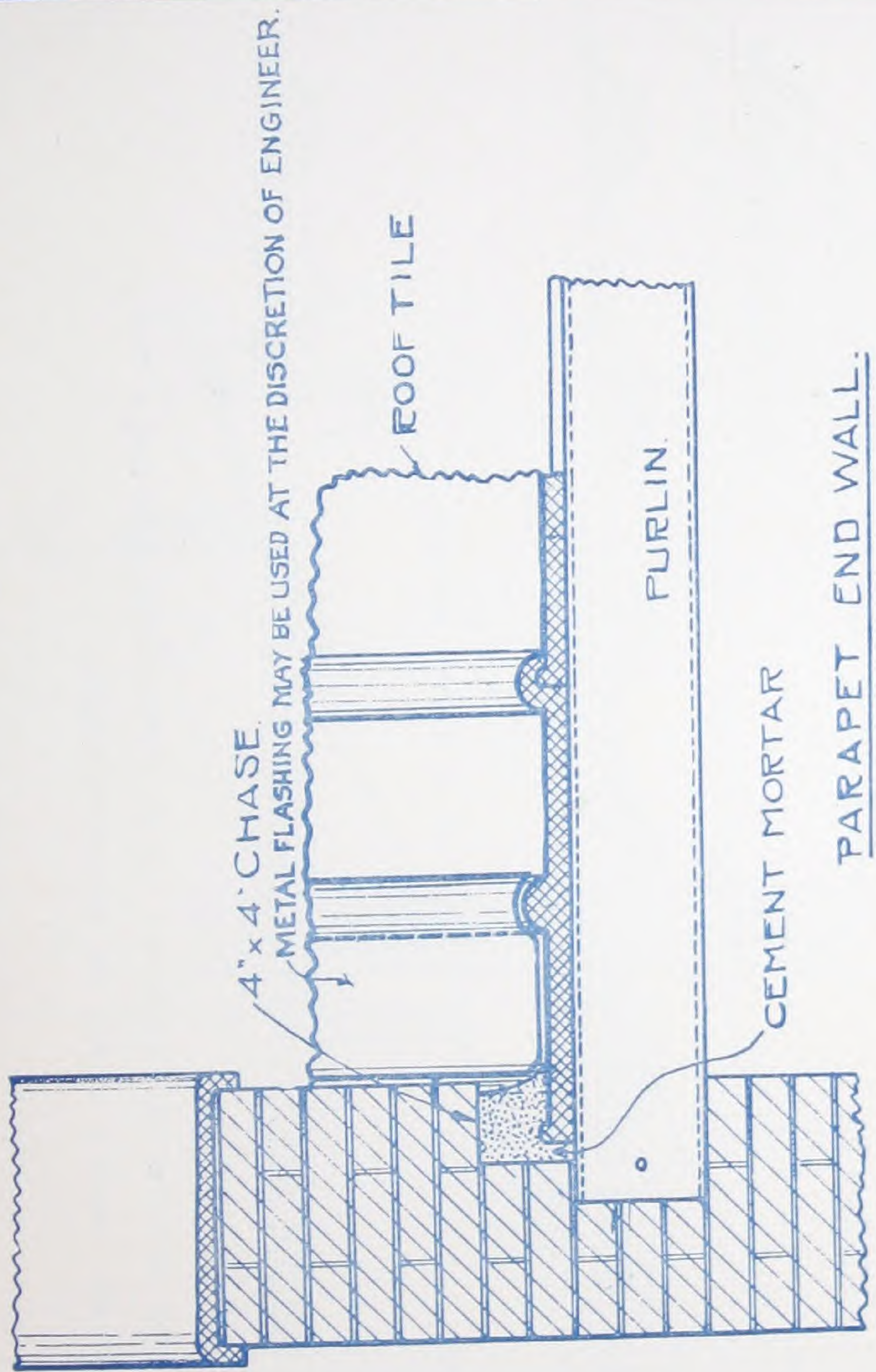
SAW TOOTH CONSTRUCTION OMITTING RIDGE ROLL.

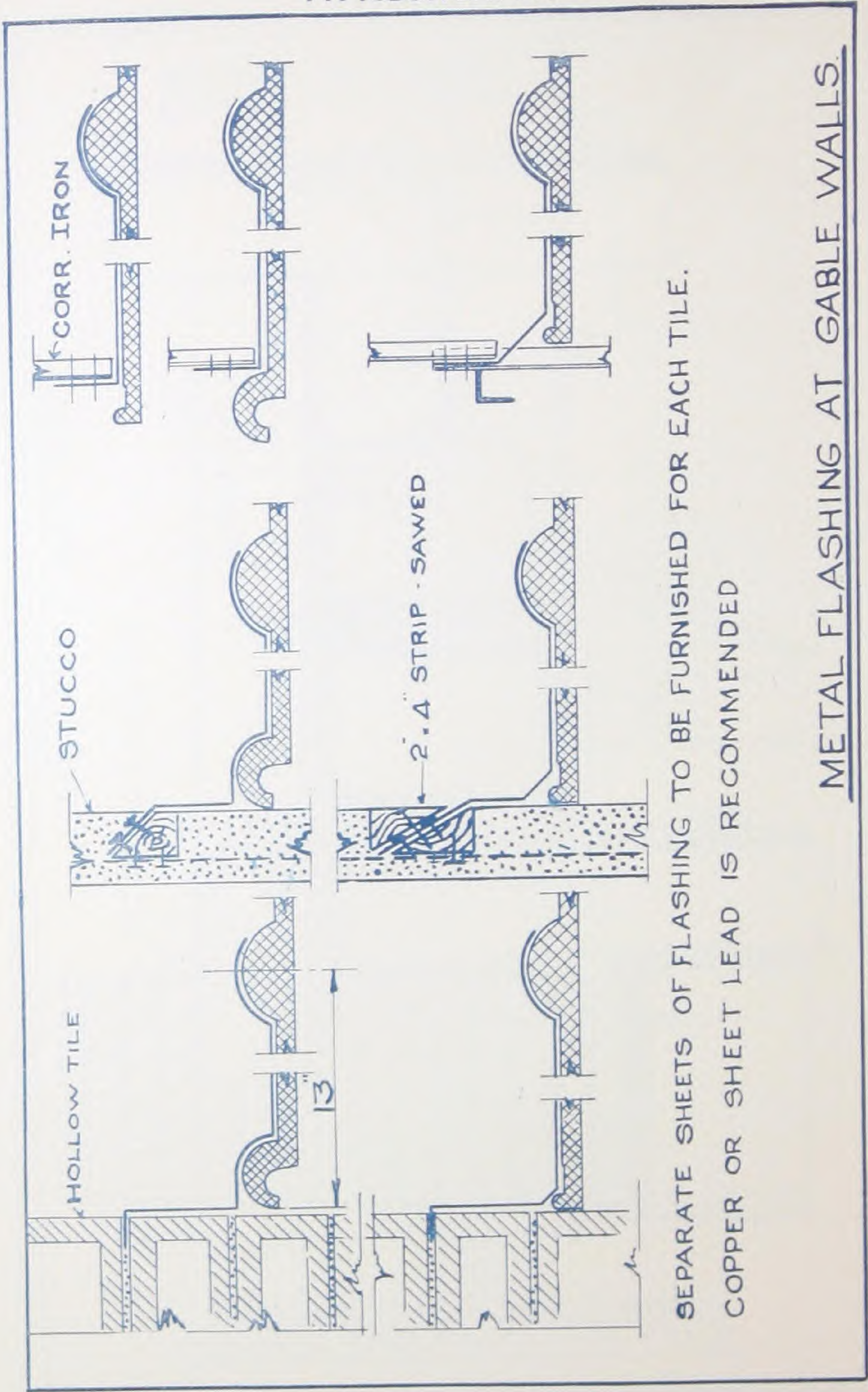
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BRICK GABLE END

SECTIONS THRO' GABLE ENDS
SHOWING END FINISHING TILE.

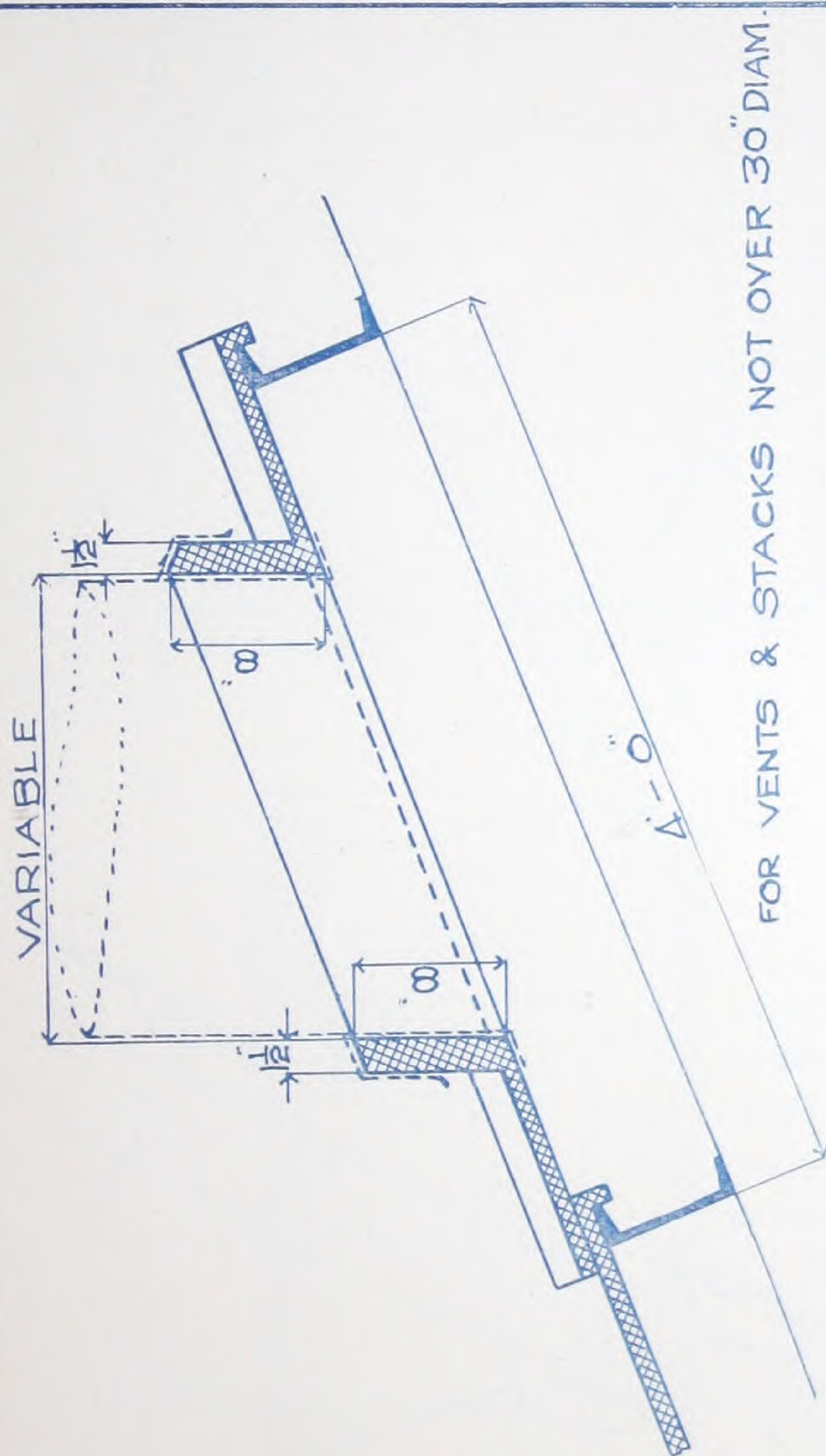




SEPARATE SHEETS OF FLASHING TO BE FURNISHED FOR EACH TILE.
COPPER OR SHEET LEAD IS RECOMMENDED

METAL FLASHING AT GABLE WALLS.

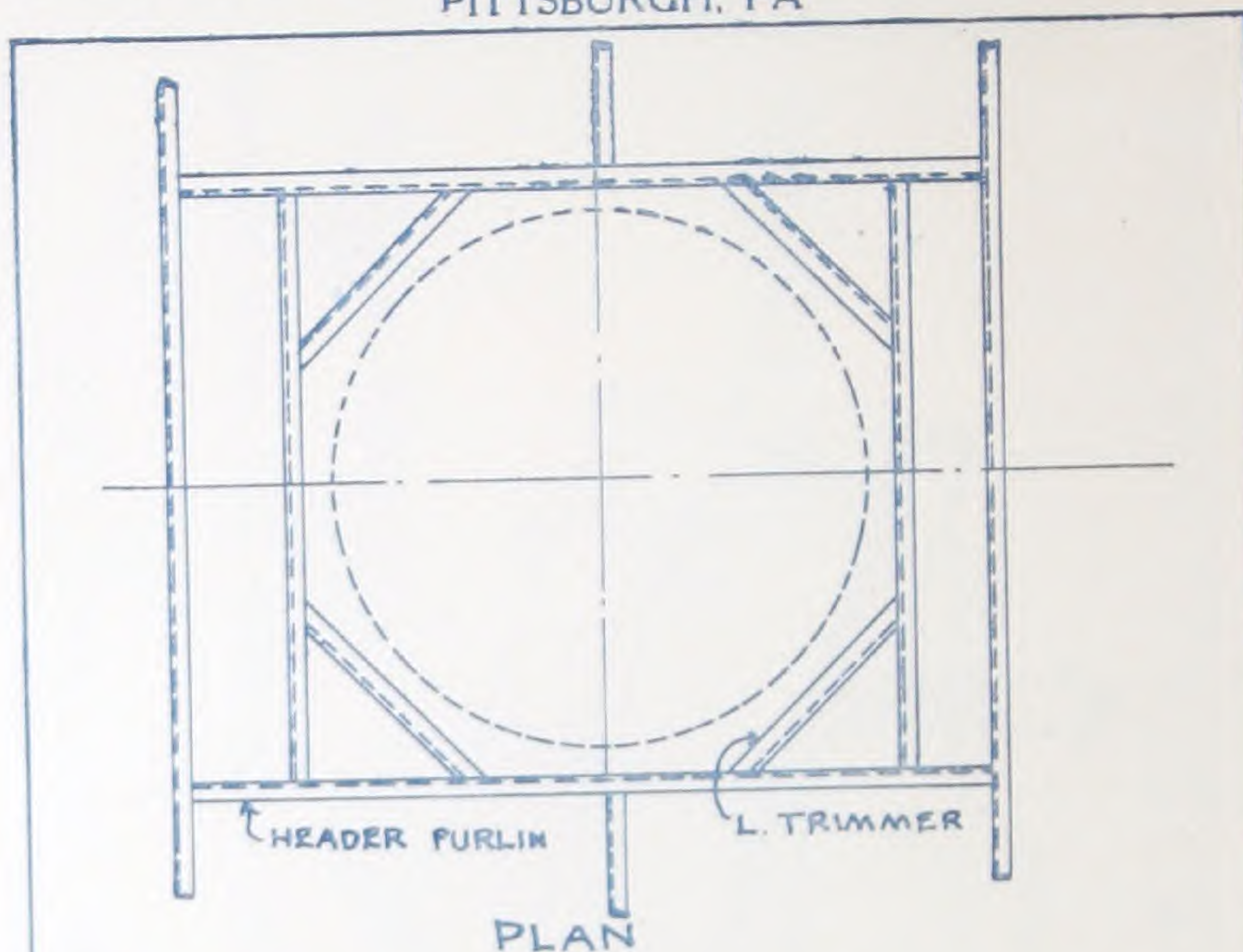
AMERICAN CEMENT TILE MANUFACTURING COMPANY
PITTSBURGH, PA.



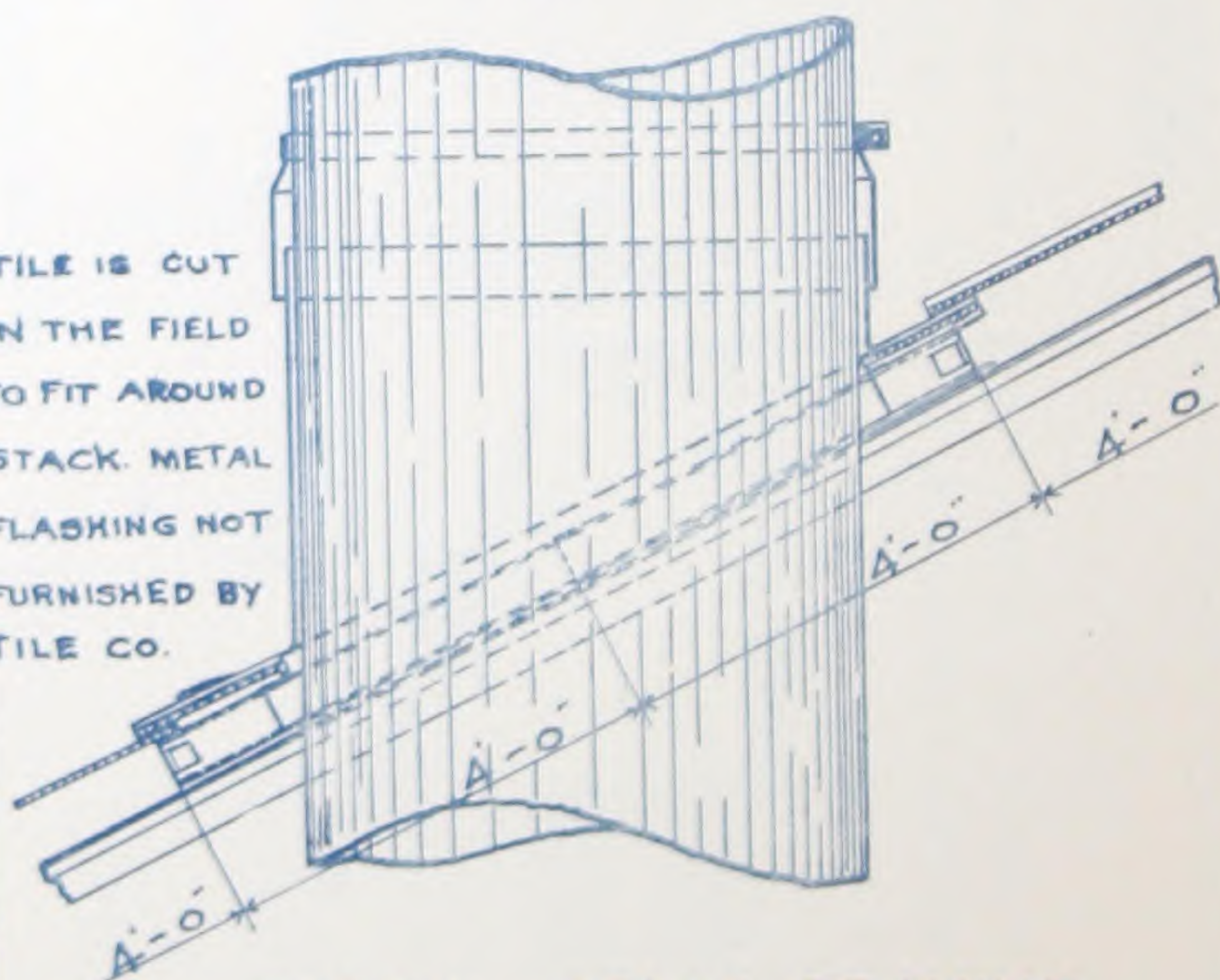
FOR VENTS & STACKS NOT OVER 30" DIAM.

STANDARD COLLAR TILE.

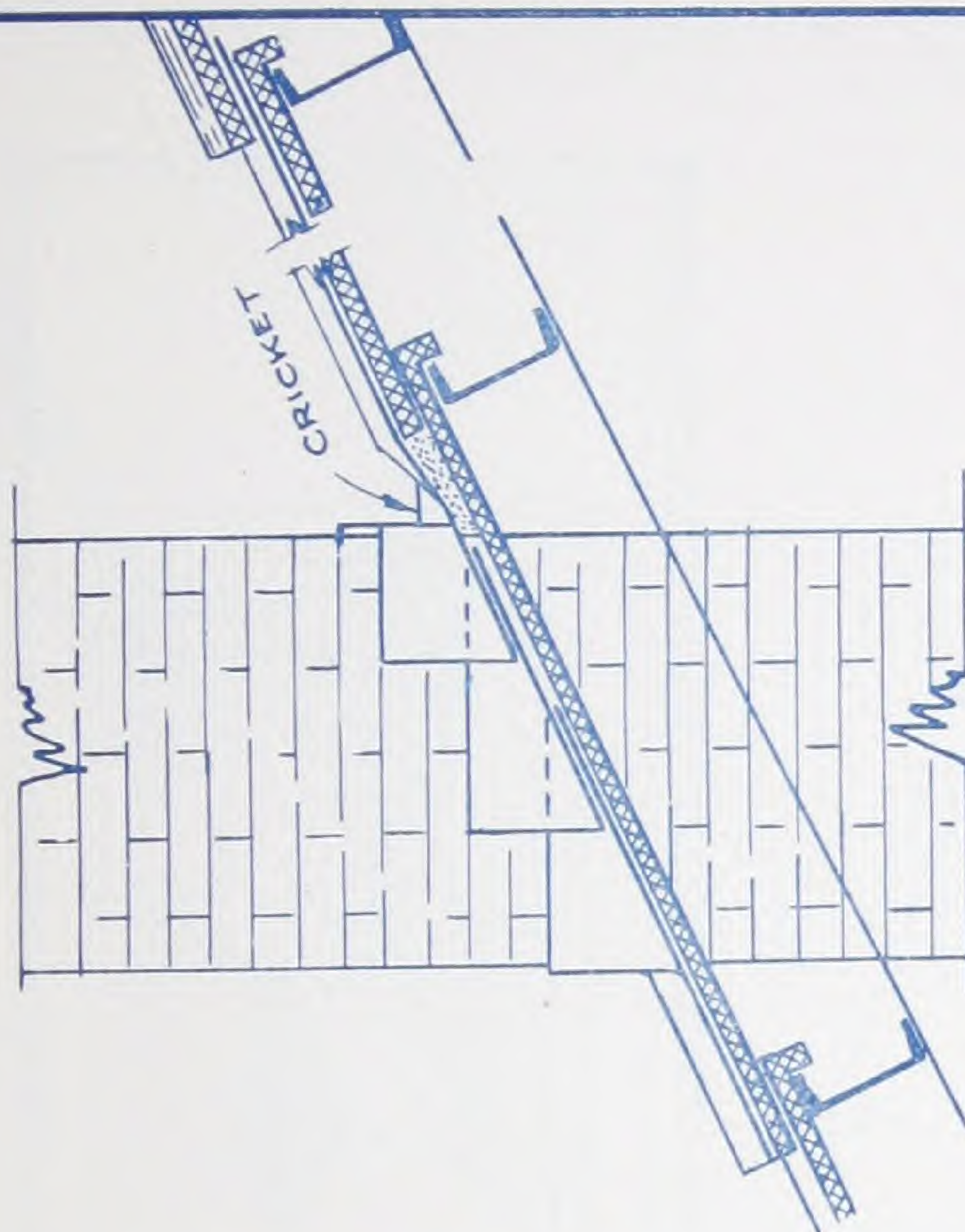
AMERICAN CEMENT TILE MANUFACTURING COMPANY
PITTSBURGH, PA



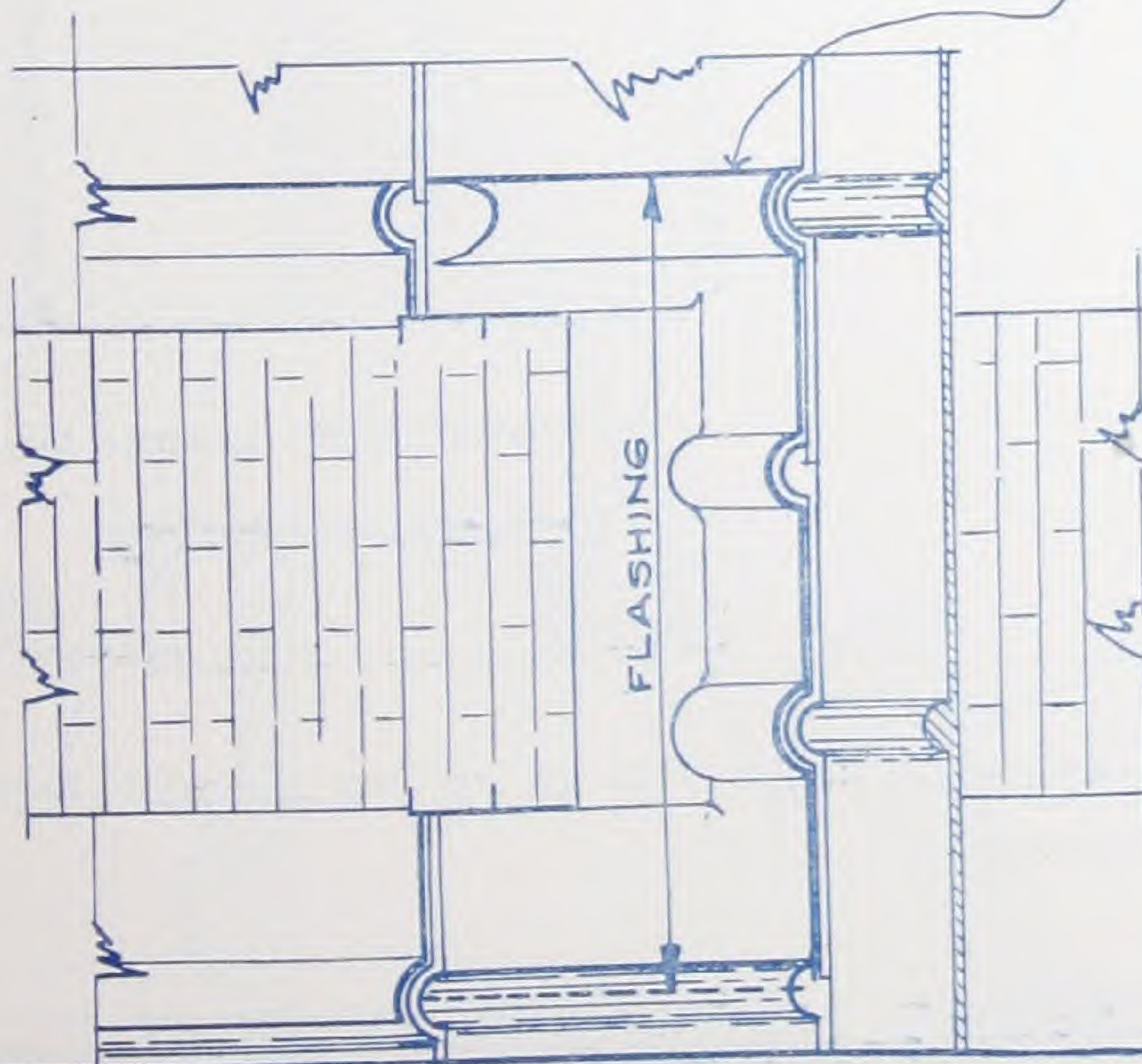
TILE IS CUT
IN THE FIELD
TO FIT AROUND
STACK. METAL
FLASHING NOT
FURNISHED BY
TILE CO.



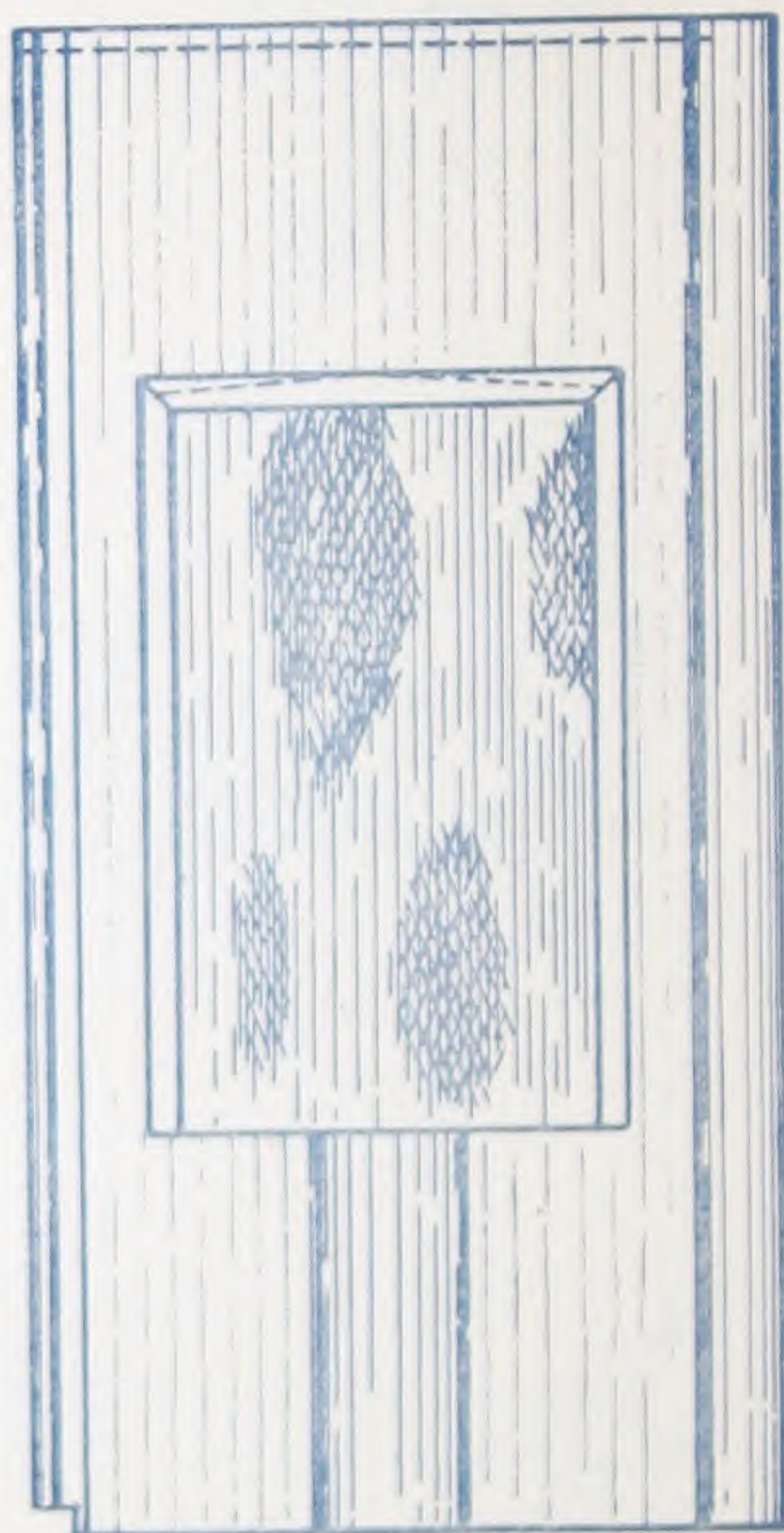
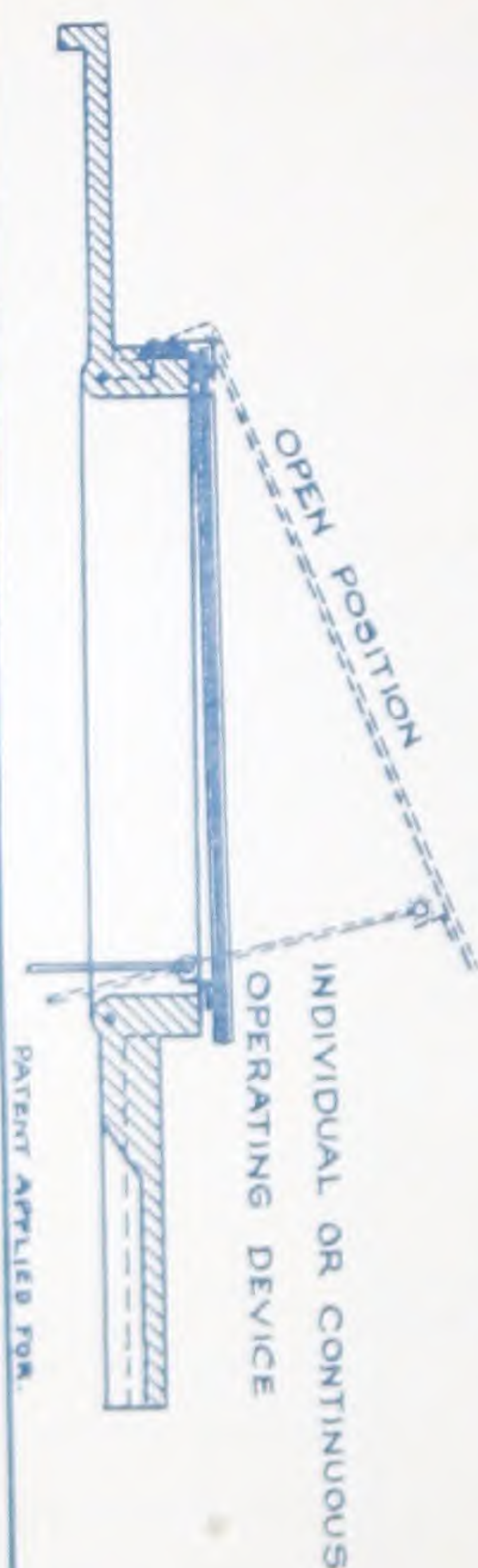
TYPICAL STACK FRAMING



COPPER OR SHEET LEAD FLASHING FORMED
ON JOB TO FIT TILE ROLLS. FOR LARGE STACKS
BRICK CORBEL OR FRAMING REQUIRED TO SUPPORT TILE.
FLASHING AT CHIMNEYS.



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PITTSBURGH, PA.

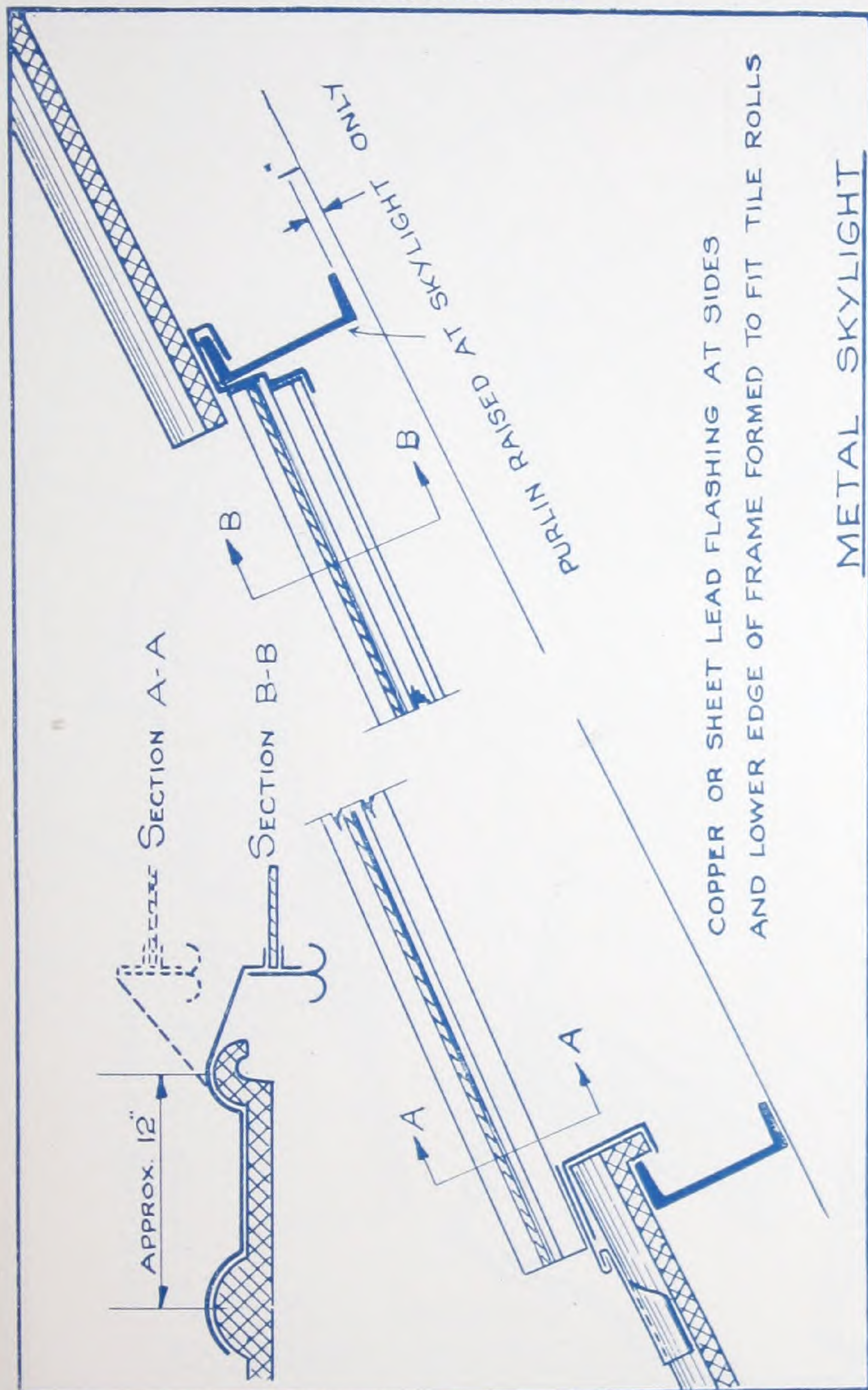


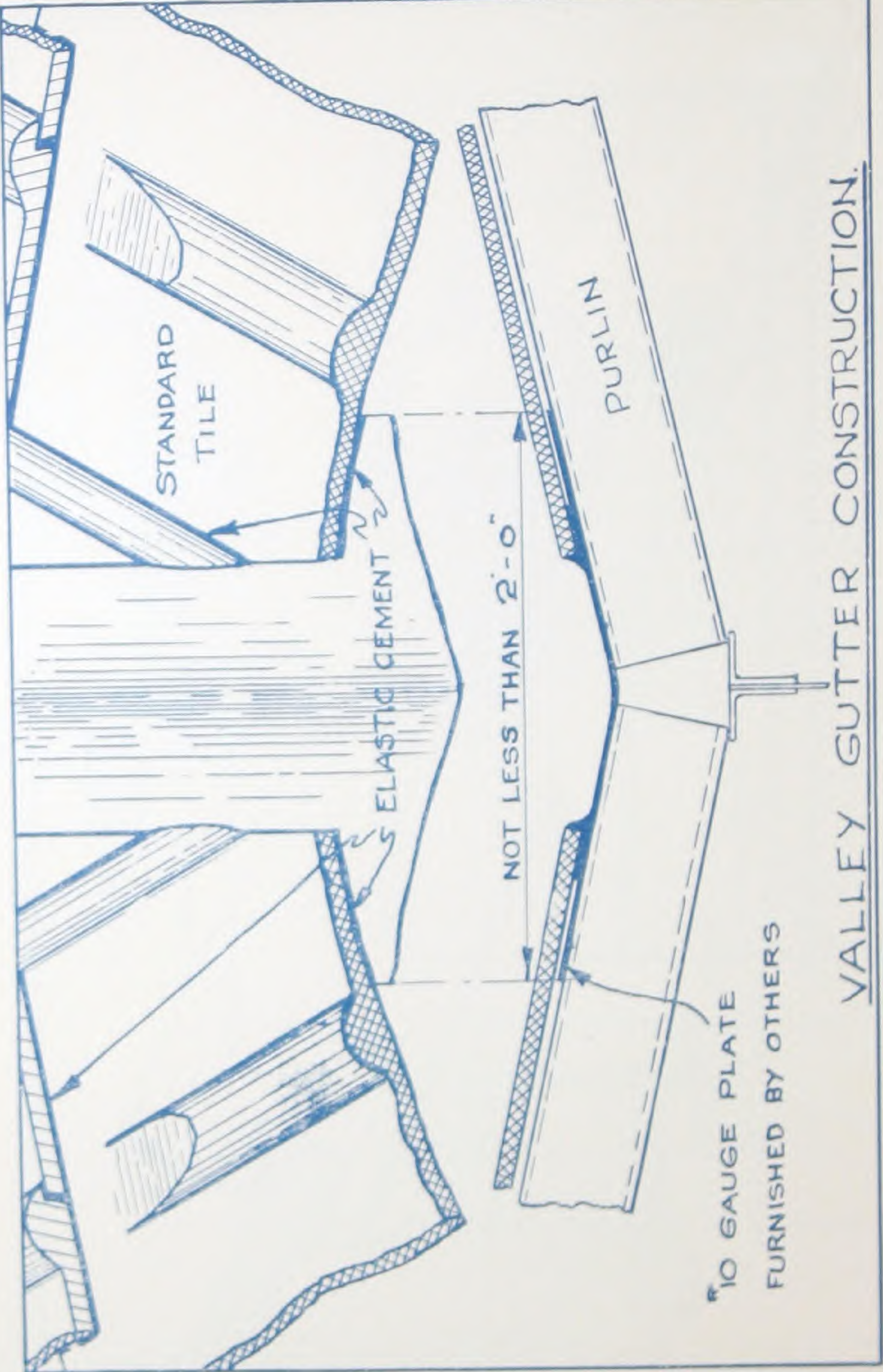
$\frac{1}{4}$ " RIBBED WIRE GLASS 16" x 26"



FURNISHED ONLY FOR 3'-10" TO 4'-0 $\frac{1}{2}$ " PURLIN
SPACING.

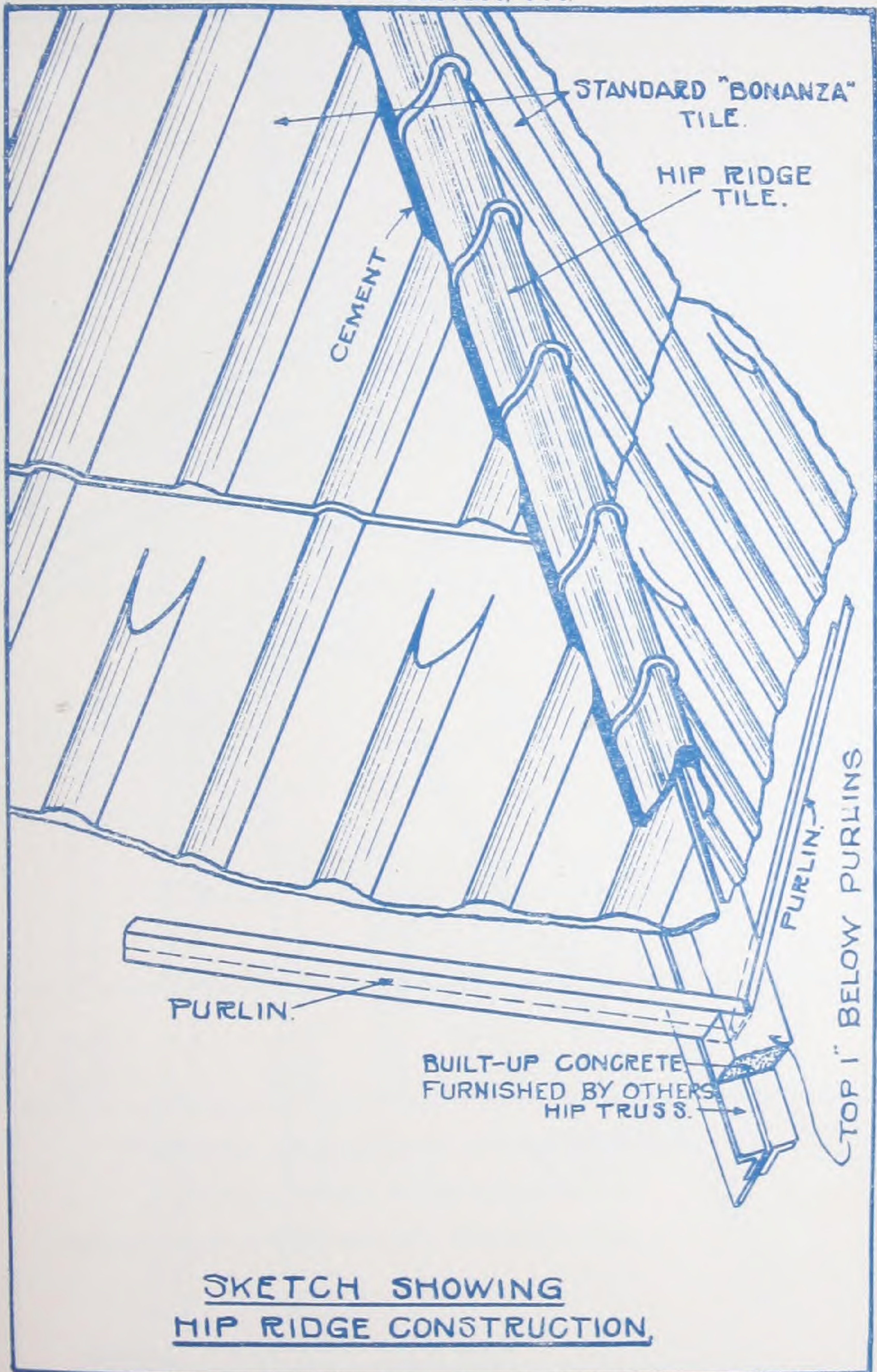
STANDARD VENTILATING SKYLIGHT TILE



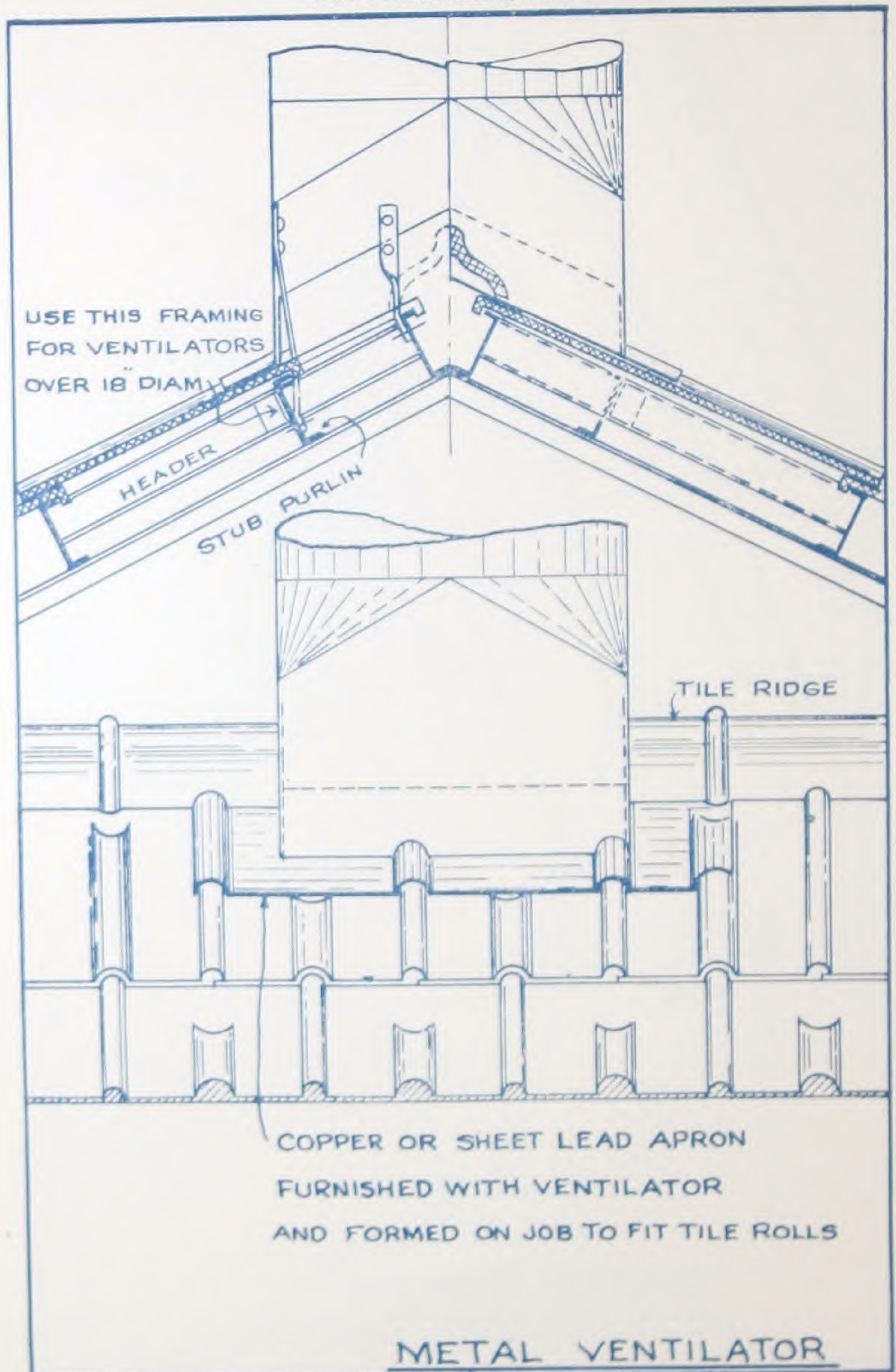


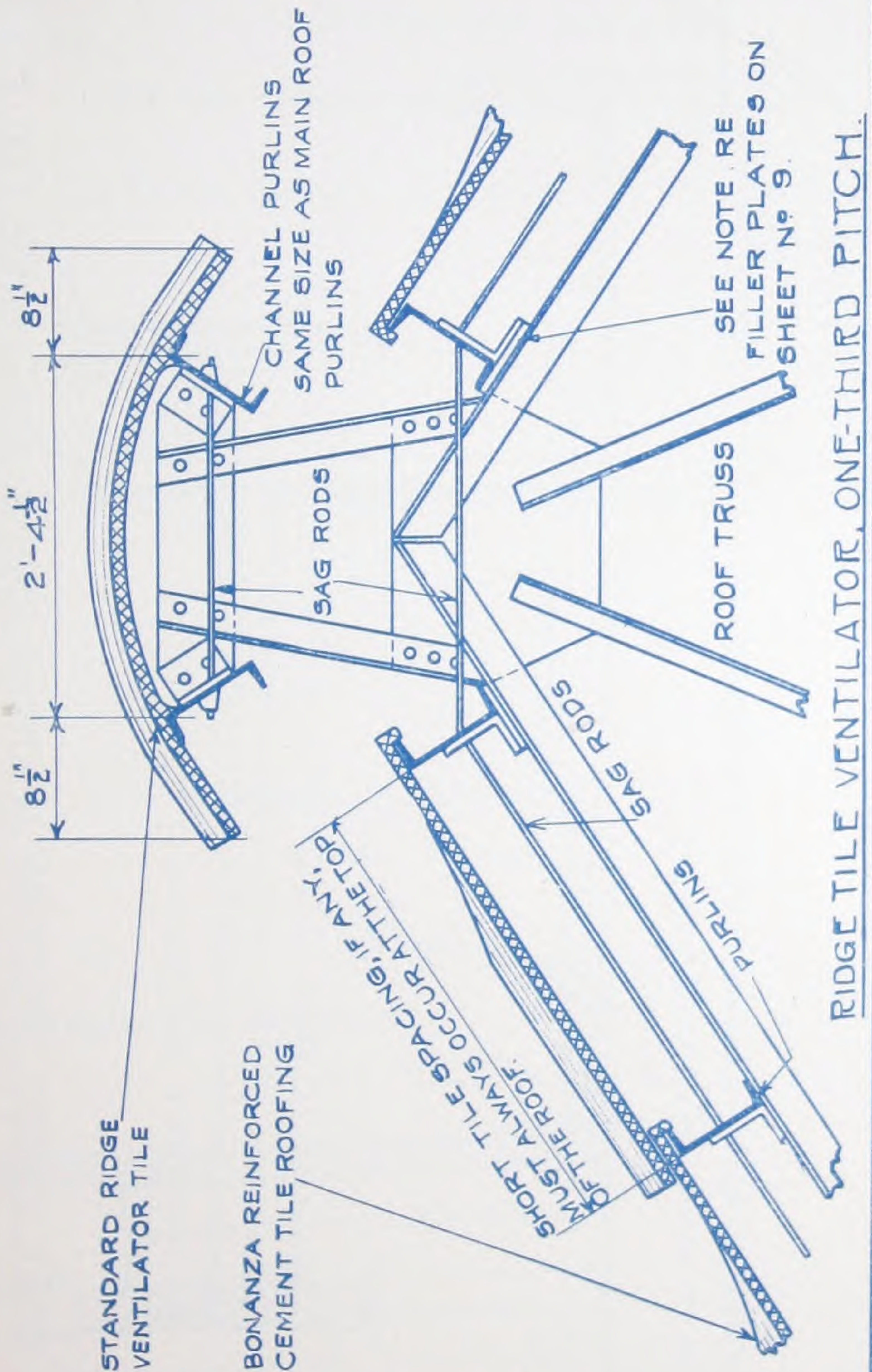
VALLEY GUTTER CONSTRUCTION.

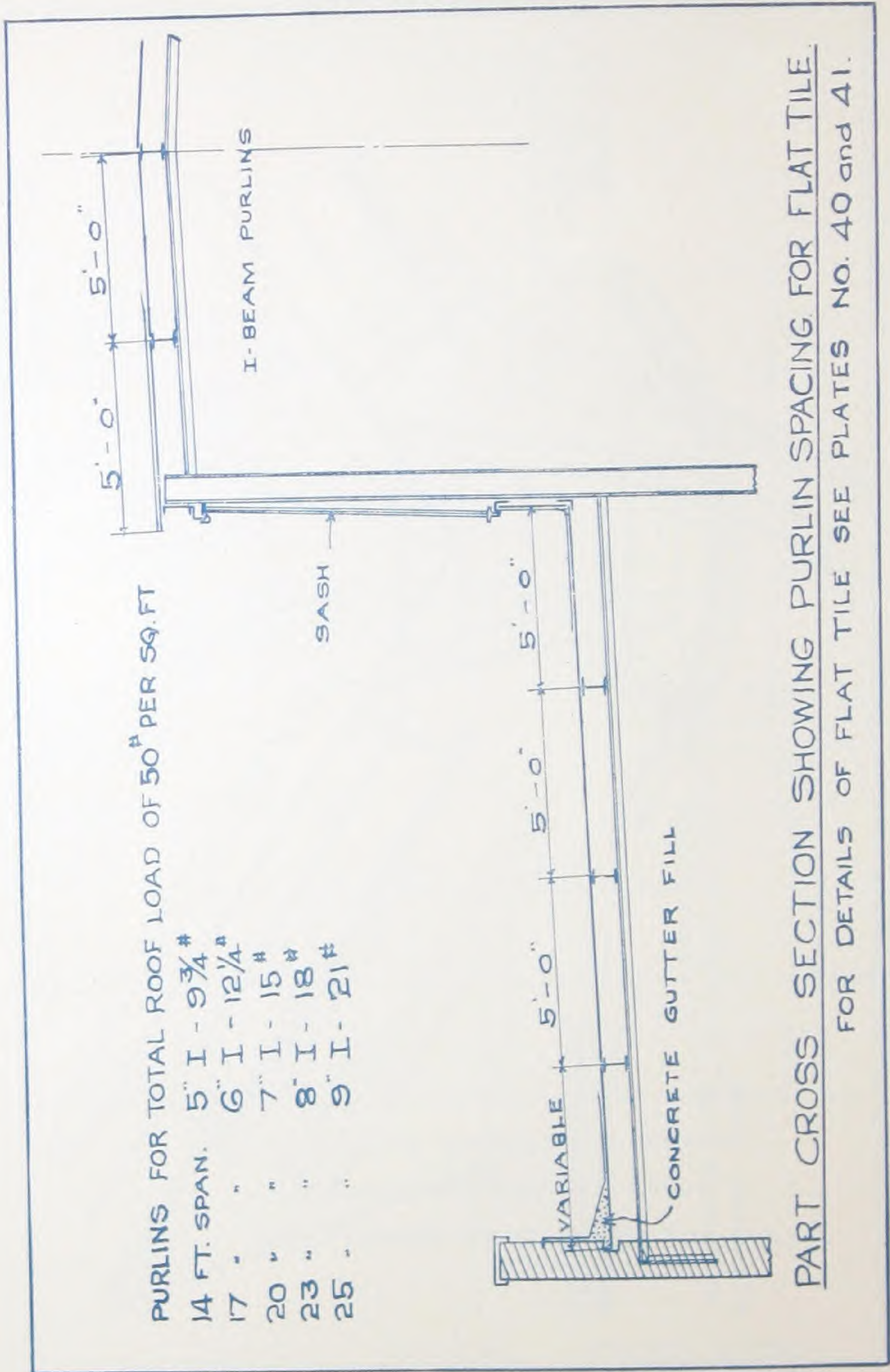
AMERICAN CEMENT TILE MANUFACTURING COMPANY
PITTSBURGH, PA.



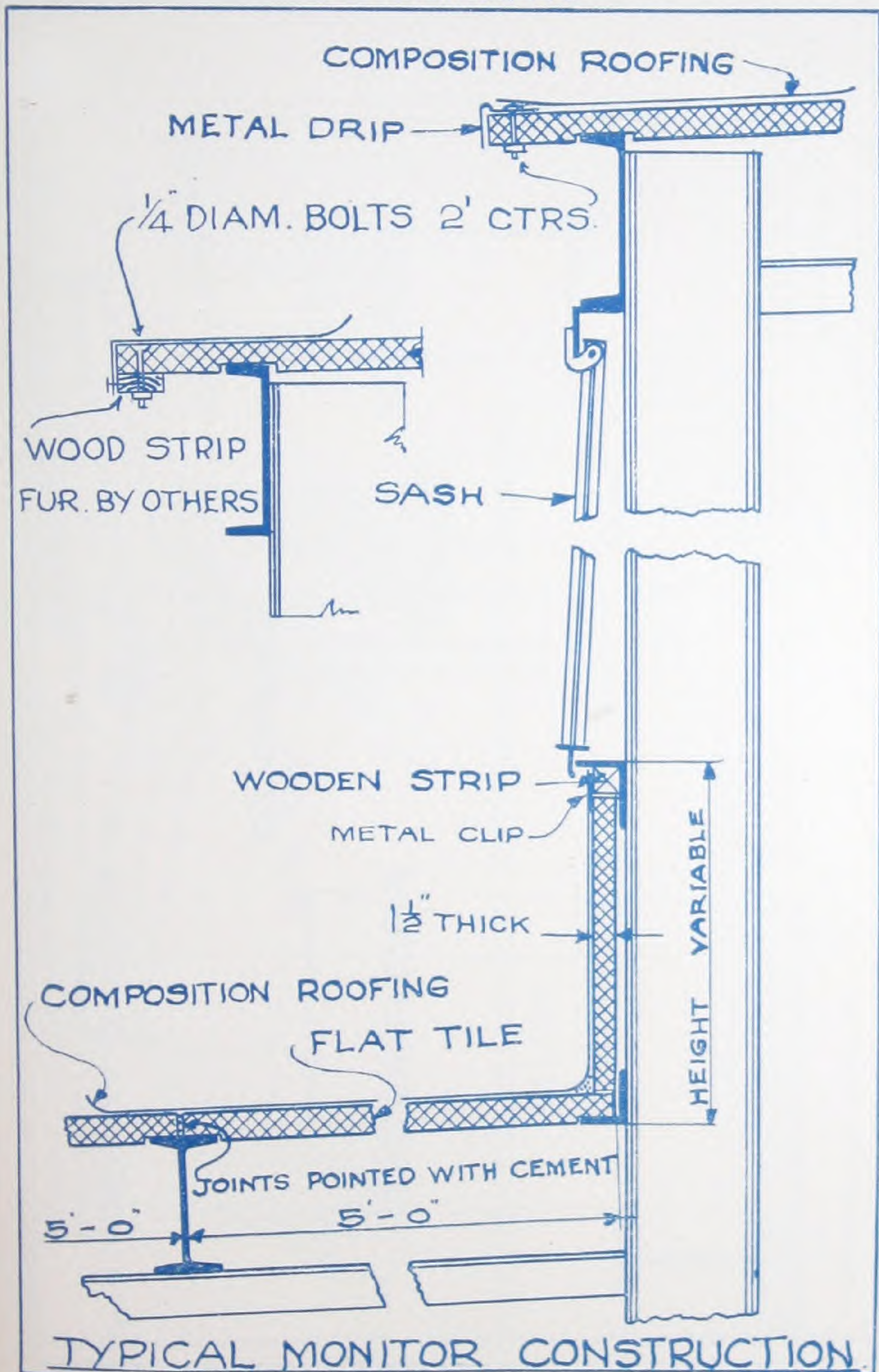
AMERICAN CEMENT TILE MANUFACTURING COMPANY
PITTSBURGH, PA.



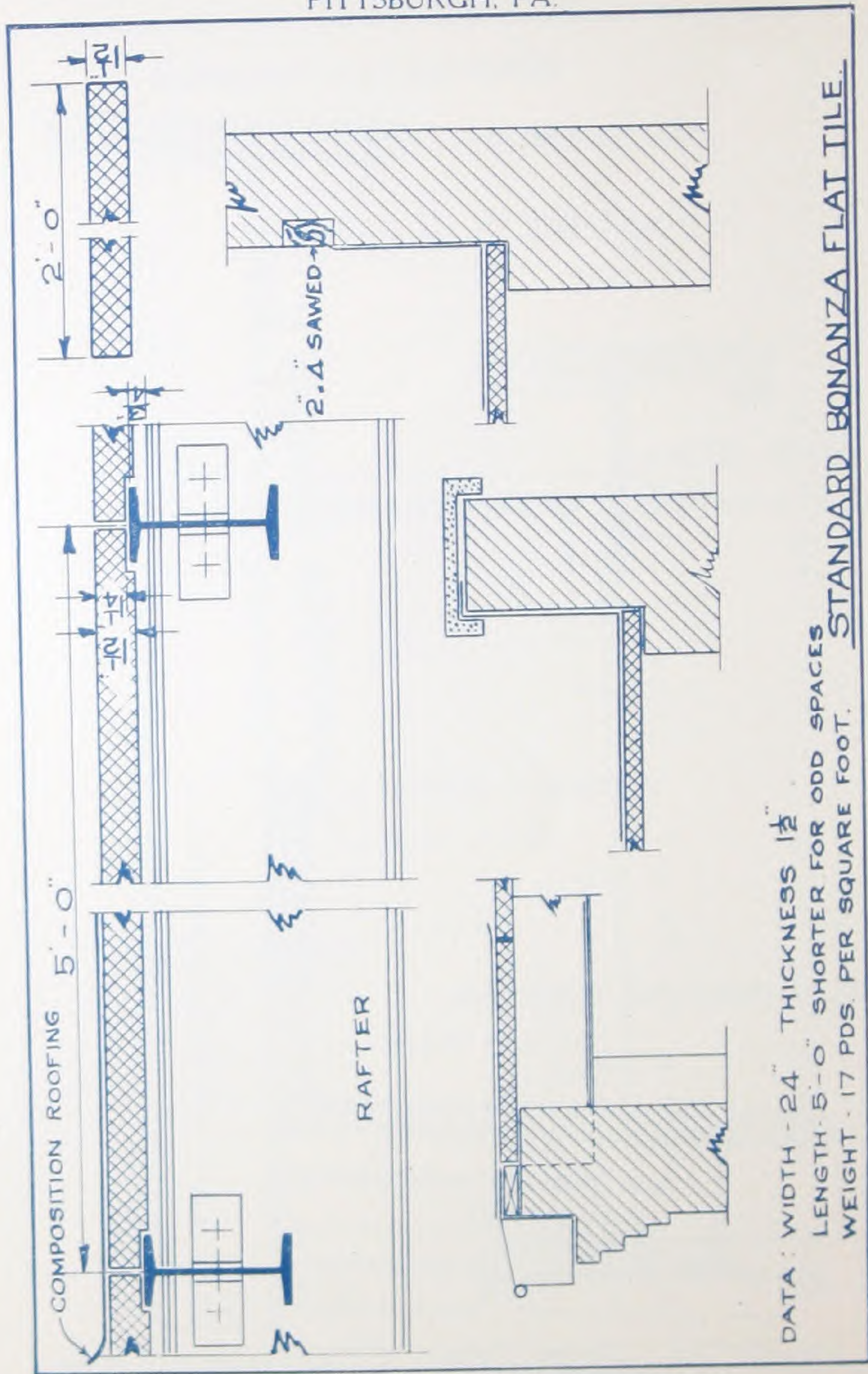




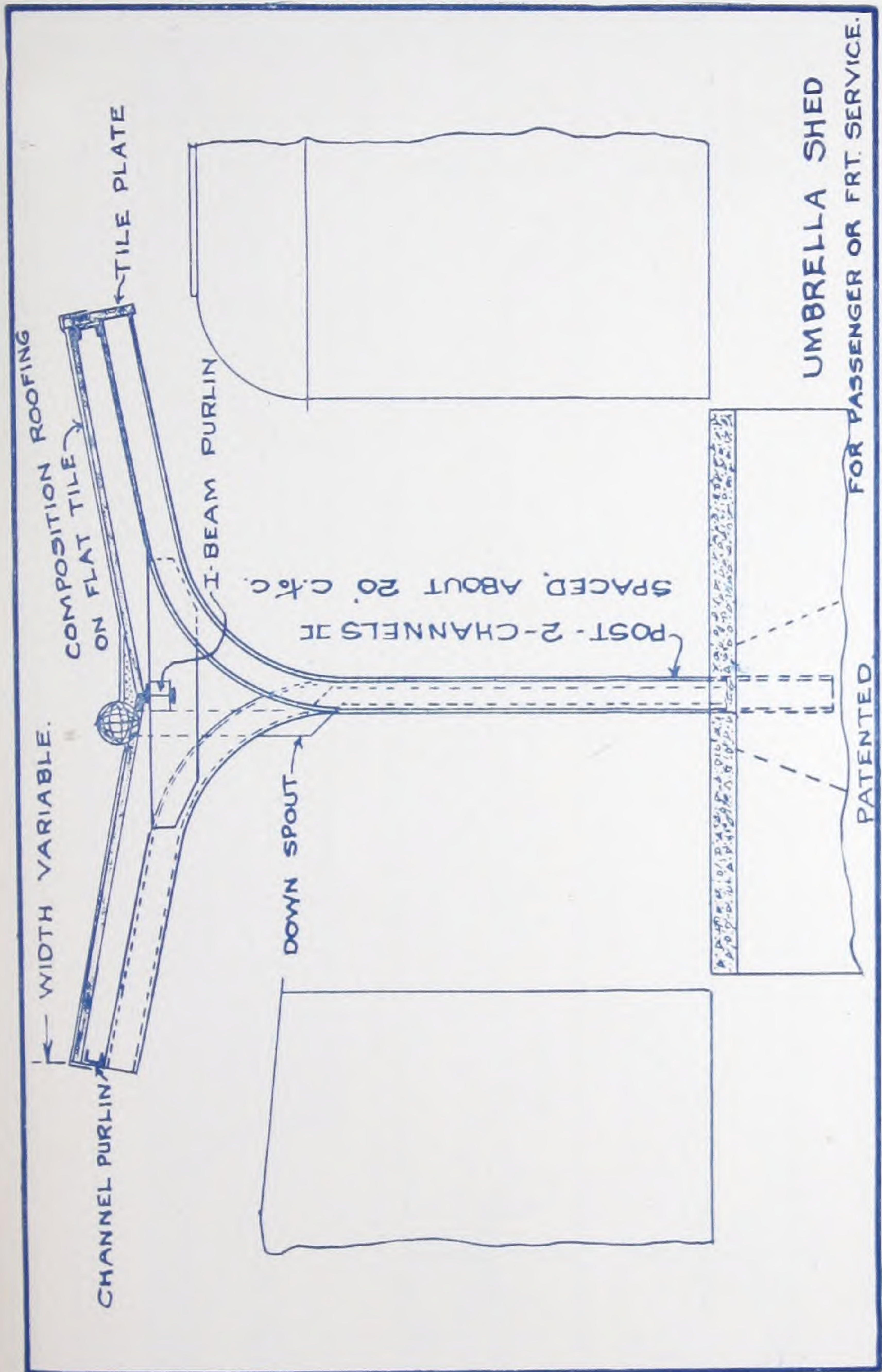
AMERICAN CEMENT TILE MANUFACTURING COMPANY
PITTSBURGH, PA.

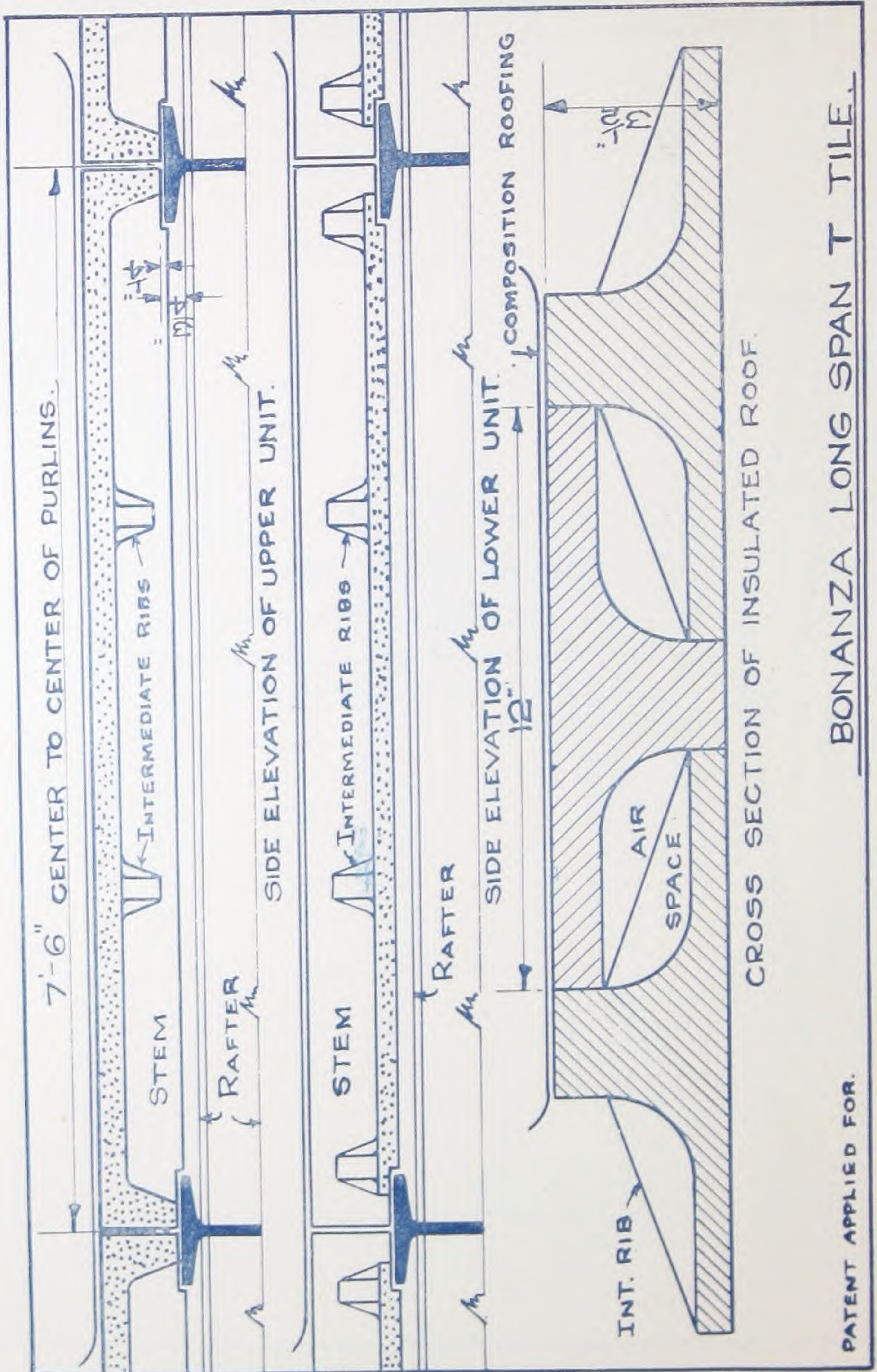


AMERICAN CEMENT TILE MANUFACTURING COMPANY
PITTSBURGH, PA.

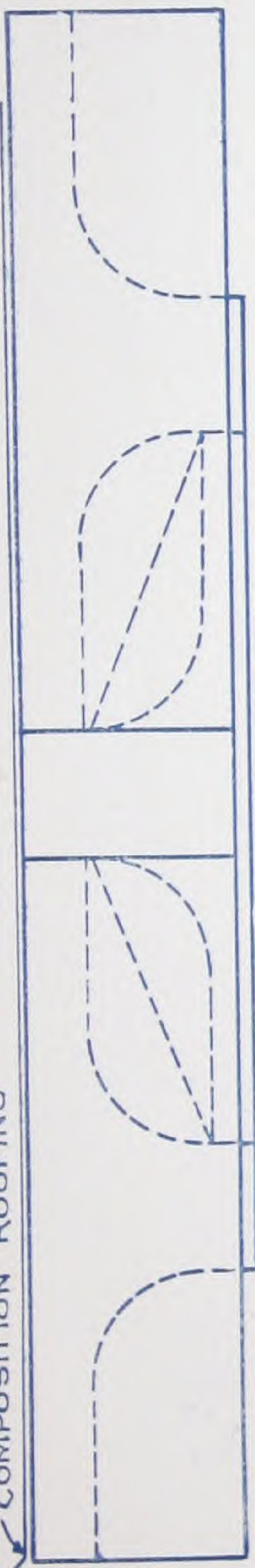


AMERICAN CEMENT TILE MANUFACTURING COMPANY
PITTSBURGH, PA.



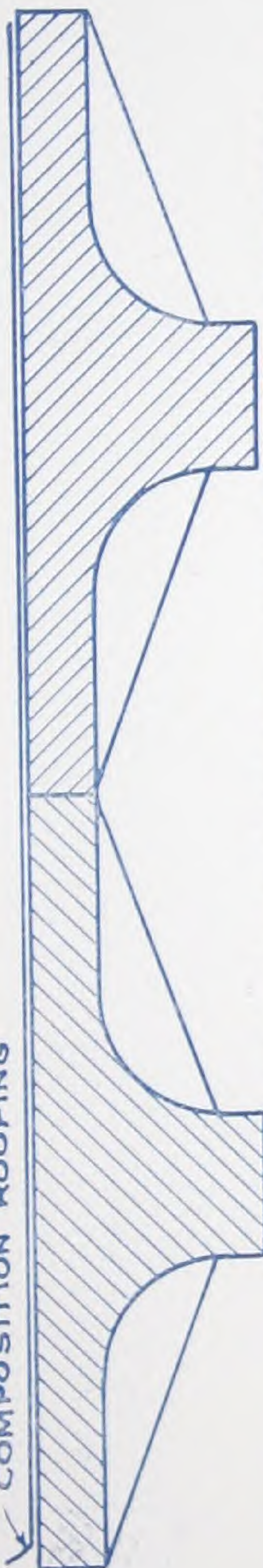


✓ COMPOSITION ROOFING



END VIEW OF INSULATED ROOF.

✓ COMPOSITION ROOFING



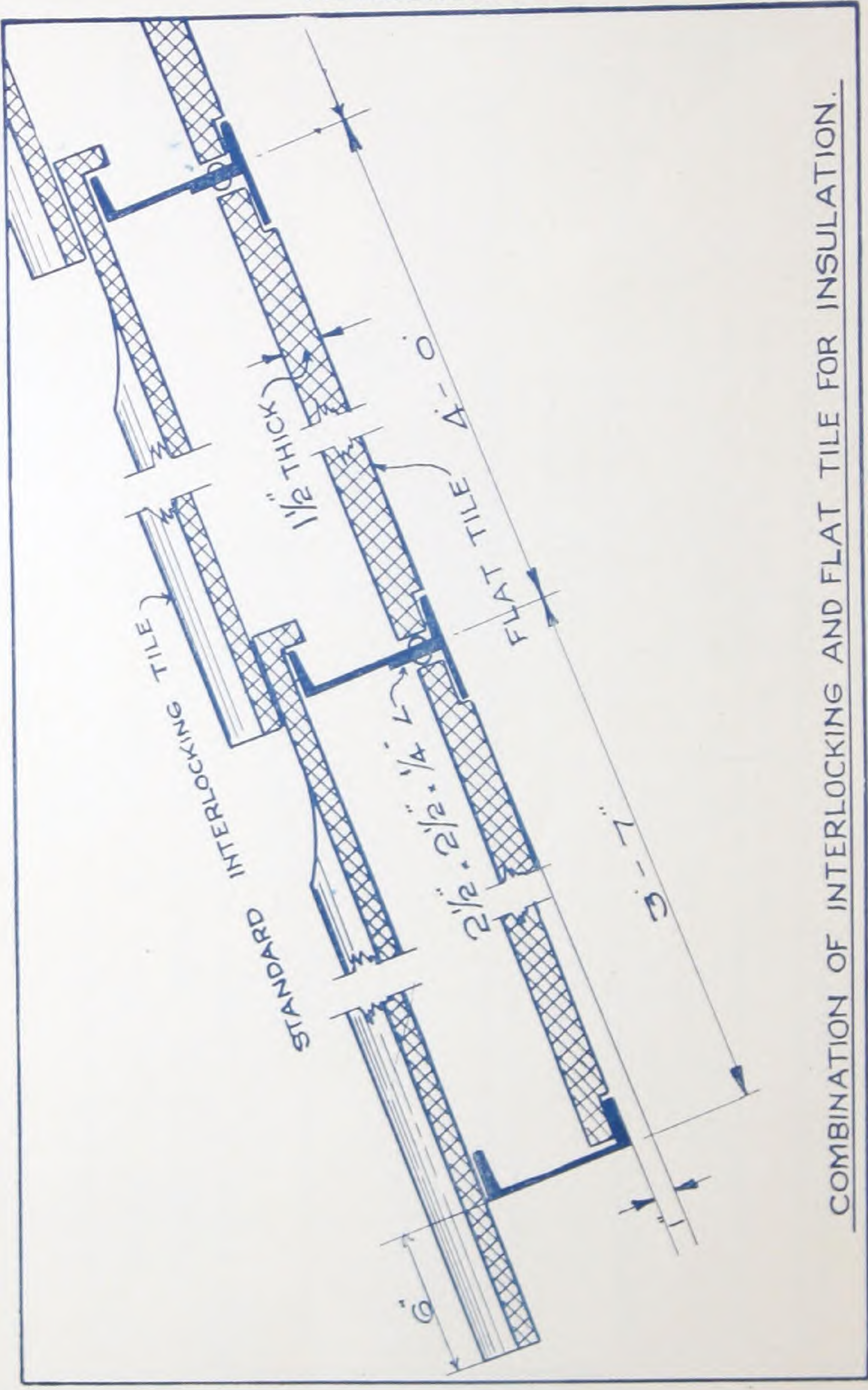
CROSS SECTION OF ROOF - LOWER UNITS OMITTED.

DATA: WIDTH 12" DEPTH 3 1/2" AIR SPACE 1 1/2" WEIGHT 25# PER SQ FOOT.
LENGTH 7'-6" SHORTER FOR ODD SPACES.

NOTE: UPPER UNITS CAN BE USED ALONE IF INSULATED ROOF IS NOT DESIRED
WEIGHT: 16# PER SQ. FOOT.

PATENT APPLIED FOR.

BONANZA LONG SPAN T TILE.



COMBINATION OF INTERLOCKING AND FLAT TILE FOR INSULATION.

